SOUTHERN
TEXTILE BULLETIN

VOL. 30 CHARLOTTE, N. C., THURSDAY, APRIL 22, 1926 NUMBER 8

Whitin Machine Works

Whitinsville, Mass.
April 22, 1926

Dear Mr. Mill Man:

"We expect to increase our consumption of low grade cotton without fear of lowering the quality of our goods."

The authority for the above statement is a mill in which we have recently installed our cleaning unit of a Bale Breaker, Buckley Upstroke Cleaning Section, Vertical Opener and a Cleaning Trunk.

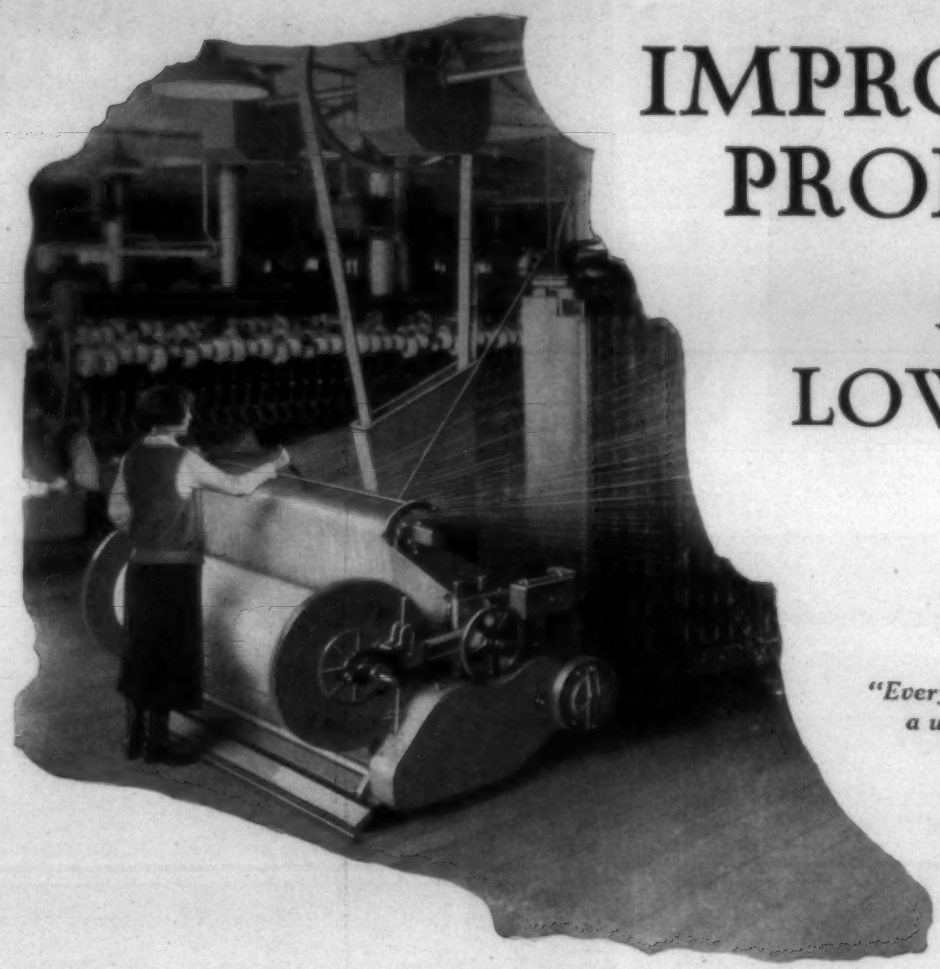
Cotton should be cleaned by a unit such as the above, not by your Pickers. If there is any large amount of dirt left in the cotton upon its arrival to your Breaker Picker the beater blades usually pulverize the large pieces of foreign matter instead of knocking them out. The main job of Pickers is to make an even lap.

We would be only too glad to answer any questions concerning the above layout.

Yours sincerely,

WHITIN MACHINE WORKS

AT YOUR SERVICE



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"Every knot a weaver's knot"

THE benefits derived from the use of BARBER-COLMAN AUTOMATIC SPOOLERS and HIGH SPEED WARPERS are so definite and so real that they cannot be ignored by any mill man who desires to give his mill every possible advantage during the period of keen competition which seems to be ahead of the textile industry.

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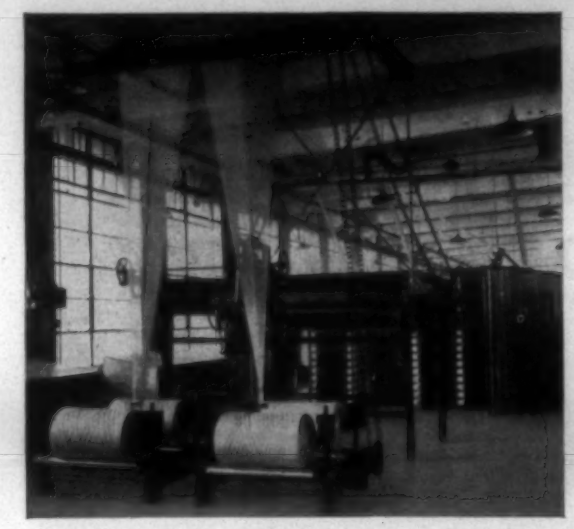
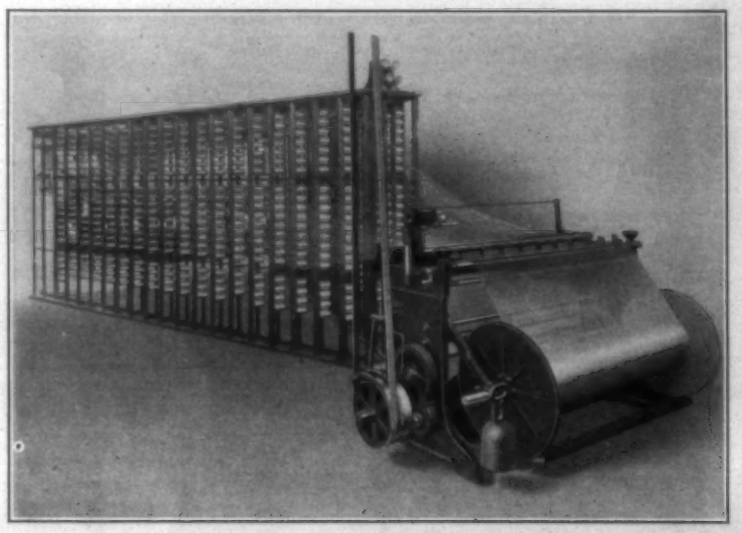
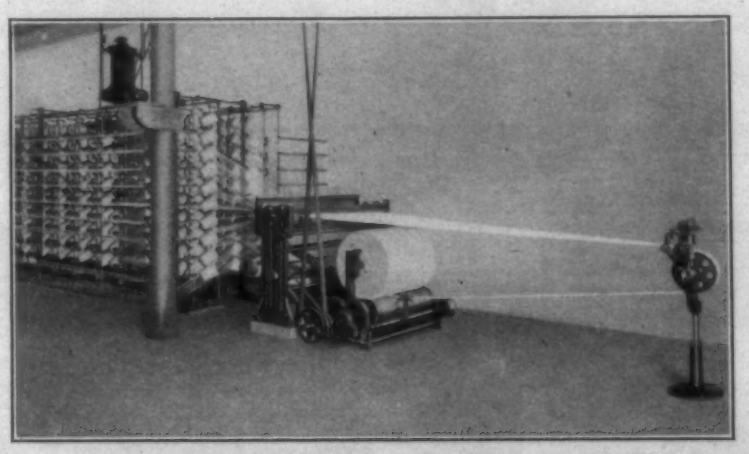


Combination Linking and Balling Warper with Direct Pull Electrical Stop Creel.

Triple Type Balling Warper with Direct Pull Electrical Stop Creel.



Section Beam Warper for Rayon with Direct Pull Electrical Stop Creel.

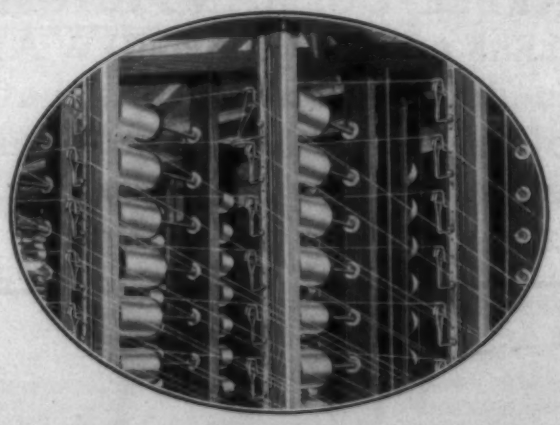


High Speed Balling Warper with Magazine Cone Creels.

Combination Link and Ball Warpers
Linking Warpers

Standard Balling Warpers in
- Single Type
- Double Type
- Triple Type

High Speed Balling Warpers
Stranding Machines



Special Direct Pull Electrical Stop Creel for Rayon.

Standard Section Beam Warpers
High Speed Section Beam Warpers
Special Beaming Warpers
Direct Beaming Warpers
Long Chain Beamers
Short Chain Beamers

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We are specialists in the designing and building of Standard and Special Types of Warpers, Beamers and Warp Handling Equipment.

Write us about your Warping, Beaming and Warp Dyeing requirements, problems, etc., and our wide experience along these lines should be of value to you, regardless of whether you are running a Yarn Mill making Warp Yarns for the market, or a Weave Mill making Colored Fabrics.

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Gastonia, N. C.

Builders of

Warpers, Beamers, Warp Dyeing and Sizing Machinery, Warp Handling Equipment, Cloth Dyeing Equipments, Reels, etc.

SOUTHERN TEXTILE BULLETIN

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VOL. 30 CHARLOTTE, N. C., THURSDAY, APRIL 22, 1926 NUMBER 8

The Power of Optimistic Faith

Address by Theodore H. Price, before National Association of Cotton Manufacturers

HAVING been graciously allowed to select the subject to which I would address myself this evening, I have chosen a topic suggested by an article published in the London Spectator.

It was written by J. St. Leo Strachey, formerly the editor-in-chief and now a sort of contributing editor to the magazine that Addison founded more than two centuries ago.

Mr. Strachey is one of England's most distinguished journalists. He recently visited America, and in telling of what he heard and saw here he says:

"But, great as were the material and topographical victories of the pioneers, their psychological achievements were even greater. What is it that makes America the most vital, the most intrepid, and so the most successful country in the world? The answer can be given in five words—the optimism of her inhabitants. Here is the secret of her success. All Americans are at heart optimists. The believe that, come what may, they are certain to win. Even when they seem depressed and anxious, they keep alive, though strictly hidden away, the sacred flame. You cannot shake their belief that in the end all will be well. They will not hear of over leaping, or over-expanding, or over-trading. They see before them a perpetually rising market. Though when over-tired by exertion they may have some temporary sick fancies, they feel that these are but shadows. Amelioration, betterment, development are, to them, the only realities of life.

"How can a people genuinely possessed of this belief fail? They have an unlimited and inexhaustible credit at the Bank of Endeavor. thing credit but a belief—a belief After all, what is that precious that you will pay your way, win, and make good, and that nothing can permanently arrest your forwardment.

"Here let me warn anyone who the warning that it is the vulgarest of vulgar errors to think that nations grow strong and rich and prosperous because of their material endowment—their fine climate, their rich and virgin soil, their mines, their forests and their fecund rivers. These are but rich frames. It is, as I have said before but cannot say too often, only the energy, morale, and indwelling spirit of enterprise that gives a people the prerogative of greatness. It was the optimist spirit of the pioneers that crowned America as Regina Terrarum—the Queen of the terrestrial globe."

To see ourselves as others see us is supposed to be salutary, although it is not always flattering to our vanity. But when we are discouraged and downcast, it heartens us to know that others still believe in our ability and efficiency, and so I am glad of an opportunity to put Mr. Strachey's encouraging words before you tonight. In a peculiar sense you represent the cotton textile industry of New England, and I know that many of you feel discouraged. That there is some warrant for this feeling I will not deny, but I am here to tell you that the winter of your discontent is drawing to its close and that it will soon be made glorious by a summer of prosperity if you will but forget the adversity from which you are emerging and give rein to the optimistic faith that enabled your forebears to meet and surmount the difficulties they encountered when their resources and knowledge were far less than yours.

I know that the business of manufacturing cotton goods has not upon the whole been profitable for the last two or three years. But I know also that it was highly profitable for the decade with 1920, and I have but little doubt that if you will take a decennial instead of an annual balance sheet most of you will find that you are better off at the end of 1930 than you were on December 31, 1920.

In London there is a rich but old-fashioned firm of merchants that does a world-wide business. They strike a balance and divide half the profits shown only once in ten years. The remaining half is carried to reserve account, and is not distributed except as the withdrawal or death of some member of the firm entitles him or his heirs to demand his share. This policy has not made the firm wealthy—it has made them philosophical; and the partner who told me of it added that for more than a century they had never had an unprofitable decade. Now I don't know the facts but I rather think that the same thing might be said of the cotton textile industry of New England, taken as a whole. It has its ups and downs. When it is going down many of us come to feel that that it will never turn upward again, and when it starts upward there are always some and often many who become the victims of their own enthusiasm because they can see no end to the expansion. Just now we going through one the "downs." It has lasted a little longer than usual, and a few are so depressed that they have become morbidly self-conscious.

New England manufactures were formerly unconscious of their disadvantages, if indeed they had many, but they have latterly become so conscious of what they regard as handicaps that they are gradually killing their business by proclaiming the disadvantages under which they think they labor. I doubt if you realize it, but I really think that New England is largely responsible for the growth of the textile industry in the South.

By comparisons that loudly proclaim the superiority of the South, you have advertised that region so effectively that a new mill in the North has become more or less a curiousity, and if anyone thinks of embarking in the business of making cotton goods his mind almost automatically turns to the region that you yourselves have so persistently acclaimed.

As a Southern man I am naturaliy appreciative of your unselfishness in exploiting the advantage of Dixie, but I sometimes wonder why you do it. Perhaps your opulence has made you generously apathetic about money, for some figures recently compiled by the Census Bureau show that from 1920 to 1925 there has been a marveously increase in the wealth of every New England State, and the record of your savings banks, your life insurance companies, and the success of your Ponzis—all tend to confirm this view.

In proportion to her population New England buys more bonds than any other section of the country. Her per capita savings are also larger than those of any State in other locations, and many times as great as those of any Southern State. You are always lamenting your losses in the New Haven Railroad, the Boston & Maine, the decline of your textile industry, and your shoe business. But you always have a little money to put in anything that is new and promising, and I well recollect the ease with which a faker got you to invest considerable sums in a scheme for extracting gold from sea water. Perhaps he revealed his secret to some of you, for upon no other hypothesis can I explain the apparently inexhaustible reservoirs of capital that are to be found in this part of the country.

But I can hear some of you saying, "It's all very well to jolly us this way, but the losses shown by our cotton mills are realities; tell us how we can convert them into profits."

Value of Brands.

Well, I am not a cotton manufacturer myself, but if I were I would try to build up and extend my business by the same methods that you have used to build up the cotton manufacturing business in the South—I would advertise it. Perhaps you may say that this is self-interested advice, for I a am newspaper publisher and might perhaps increase my limited income if the textile industry advertised more. But I can't help that, and I repeat my advice. You must advertise more if you want you business to grow. You are engaged in an industry in which brands or trade names could be made enormously valuable. But how few cotton fabrics there are that are internationally, known—by names that have become household words, "Sapolio," "Royal Baking Powder," "Lux," "Castoria," "Listerine," and a hundred others that you all can recall. Wamsutta muslins, Pepperell drills, Fruit of the Loom, and Cannon cloth are about the only products of the cotton textile industry whose names I can recollect without hard thinking, whereas the word rayon which is less than three years old has already become so well known that the demand for it is far in excess of the supply. The sub-

(Continued on Page 34)

The Story of Cotton

(Continued from Last Week)

This glory and beauty last for three or four weeks, and then a stranger sight succeeds. Under the eye of a nooday sun blazing from out the deep blue sky lies a shrubbery laden with snow—pure white snow which does not dissolve under those scorching beams, but lingers till it is carried off by the touch of busy fingers. The pods which succeeded those glorious blossoms have ripened and burst, and the cotton-pickers come out in parties, a bag fastened round every waist, to load themselves with their spoil. From morning till evening they are hard at work; a good hand will pick two hundred pounds of cotton a day in the height of the season— in spite of the heat of the sun, which is at that time of year almost insufferable: nor do things mend, at least in America, as the year advances. The autumn is a wet and stormy season on the coast of Georgia and South Carolina, and then the task of the cotton-pickers is both tedious and wearisome.

And on whom has this labour for the most part devolved? Where has the civilised world looked for this first step towards the clothing of her children? Alas! to the poor negro. The task from which the European shrank has been forced upon him. In the West Indies, in North and South America, the cultivation of cotton as well as sugar was for a long course of years carried on by the toil of the unhappy African. For this he was dragged from his own land, for this he was bought and sold, for this he was doomed to hard and unremitting work, till at last people persuaded themselves that neither cotton nor sugar could be cultivated without slave labour.

The history of the slave trade is one of the saddest in the world. It began in 1481, when the Portuguese first carried off negroes from Africa and sold them to the other nations of Europe. The Spaniards, never an industrious nation themselves, after destroying almost all the natives in the neighbuorhood of their silver mines in America by loading them with work beyond their powers, were only too glad to supply their place with negro slaves. The Genoese, the Portuguese, the French, in turn undertook the infamous traffic of buying negroes on the coast of Africa and selling them again to the Spaniards in America at a fixed rate. Truth obliges us to add that during thirty years the English carried it on. By the Treaty of Utrecht, entered into by all the great powers of Europe in the year 1713, the contract for supplying the Spanish provinces in America with slaves was made over to England, Queen Anne undertaking that her ships should carry over 4,800 of them every year. Slave ships were then fitted out and sailed from London, Liverpool, and Bristol regularly as merchant ships of the present day.

England abolished the slave-trade in 1807. On August 1, 1834, she freed her own slaves in the West Indies, but she could not free the descendants of the five hundred thousand slaves whom she left in the United States when those State were formed into a free independent nation. Slavery continued in one part of the new country till at last it became the principal cause of the American war between the Northern and Southern States—the Free States and the Slave States—a war which very nearly broke up that vast Republic, and was the cause of an immense amount of distress on both sides of the Atlantic.

What effect it had upon the manufacturing districts of England will be told by-and-by; meanwhile let us glance for a moment at the other products of the wool-bearing plant.

While the vegetable fleece it yields to man is its chief boom, it supplies him with other useful things also, which, it is to be feared, he has somewhat wasted hitherto. The seeds, which are separated from the soft down soon after it is plucked, are a valuable food for cattle, if only they do not eat too much of it a time. The lint which adheres to the seed is injurious if taken in large quantities. The better plan, we are told, would be to press the seeds, for they yield an oil as pure and bland as that of the olive, and what is left would be an oil-cake very good for fodder, besides supplying materials for soap-making. It is calculated that if the best use was made of the seed, the value of the cotton crop in the United States would be increased by about five million pounds a-year. The present annual profit to the United States which is yielded by the cotton fields of that country amounts to eight millions sterling; a remarkable circumstance, when we remember that the wool-bearing plant was perfectly useless in the States less than ninety years ago. Not a single bale of cotton of American growth was exported till the year 1790.

CHAPTER III.

Cotton in Ancient Times.

India, which is called the native home of the cotton-plant, seems to be the place where it was first manufactured. Herodotus, the great Greek historian, whom we call the father of history (B. C. 484), relates that certain plant in India bears a fruit full of a wool superior to that of the sheep, from wich the natives make cloth for their garments. A hundred years later, when Alexander the Great invaded India, we are told that he found the natives clothed in a sort of linen made from a fleece which grew upon trees. Their loose garments hung down to the middle of the leg, and they covered their heads with turbans of the same stuff—a description which very well depicts a Hindoo of the present day. The East is indeed wonderfully unchangeable, and there can be little doubt that the poor Indian woman of our time deals with the downy mass she has gathered from the cotton-plant just as it was dealt with in the same country ages ago. Let us watch her at her work. First, she cards her cotton with the jaw-bone of a fish; then she separates the seeds by means of a small iron roller, which she works backwards and forwards over a flat board; next, with another bone, she brings the fleecy mass to a uniform substance, after which she draws it into thread, choosing the moist atmospere of a tropical morning or evening to work in. If she is compelled to spin in the dry season, or during the heat of the day, she places a vessel of water under her cotton, that evaporation may supply the requisite moisture. Her spindle is made of iron, weighted with a ball of clay, and it moves upon a piece of smooth hard shell, imbedded in another lump of clay.

The thread thus produced is marvellously fine, and has ever been so. From it were made the half-transparent robes which were carried to Rome in the days of the old Emperors Augustus and Tiberius, robes which the Roman beauties prized beyond anything. From it are now woven delicate muslins, called by all sorts of fanciful names, "evening dew," "flowing water," and so forth, priceless as curiousties, and first made for turbans for the native princes of India. Sometimes these wonderful textures are woven under water, in order to afford them support. Broad webs of this sort of muslin may be drawn through a wedding-ring. It is related that a Persian ambassador returning hom from India, presented his monarch with a cocoanut, in which a muslin turban was folded up. This turban was thirty yards in length, and so transparent that, when it was expanded in the air, it could scarcely be perceived. And in the life of the Emperor Aurungzebe, who reigned early in the last century, it is said that once, on seeing his daughter arrayed in a robe of fine muslin, he was shocked, and found fault with her for not being sufficiently clad, and which she defended herself be declaring that her robe was wrapped nine times around her.

There are two villages in Bengal where these delicate fabrics are still woven. So fine are they in quality, that when they are spread upon the grass, and the dew has fallen, they are no longer to be seen. A breath will blow away a lady's dress. It takes four months to weave a piece of this muslin; no wonder that a pound or thirty shilling a yard has been given for it in England. A moralist of the seventeeth century reproached his countrywomen for the extravagance in spending so much money upon "a mere shadow of commodity." No fingers but those of the Hindoo could spin or weave such gossamer threads. The supple, lithe form, plaint limbs and hands, and quick powers of observation which belong to the native races of India, fit them for such tasks; and it is worthy of remark that spinning and weaving are the only arts in which they ever have excelled.

There is one busy little worker in Hindostan, whom we must not pass over, a worker who uses his cotton fresh from the pod without the aid of spindle or distaff. I mean the tailor-bird, who fastens together his nest with it in the mango groves. Drawing with his bill a few large, strong leaves into the required form, he sews them together with filaments of cotton, and so makes a nest for himself, his mate, and their family, in which they swing as in a hammock, among the leafy boughs.

But to return to human work-people. Cotton robes of a stronger make, printed in a variety of colours, are mentioned by Strabo, a famous geographer, B. C. 5, who also speaks of the cotton-plant and says it was cultivated in Persia. Virgil too, the great Latin poet, who was the friend and favorite of Cæsar Augustus, alludes to it thus—

> "Shall I sing of the groves of Ethiopia, hoary with soft wool,
> And tell how the Seres comb out the fleece from among the leaves?"

Half a century later, we have a much fuller account from the careful pen of the great naturalist Pliny. First a Roman soldier, then a lawyer, Pliny afterwards gave himself up to study, and wrote books, all of which have perished except his Natural History. He was a close observer of the world of nature, and thus he lost his life; for while he was watching that terrible eruption of Mount Vesuvius, which overwhelmed the cities of Herculaneum and Pompeii, he ventured too near the fiery stream of lava and was killed. The description of the cotton-plant in Pliny's Natural History runs thus: "In Upper Egypt, on the side towards Arabia grows the shrub, called by some gossipium, and by others xylon, from which cloth xylina is made. The plant is small, and bears a fruit like a walnut, which contains woolly down, fit to spin into yarn. This cloth is so white and soft, that it is better than any other, and beautiful robes are made from it, which the priests of Egypt delight to wear."

It is clear from this account, that cotton was cultivated in Egypt, and therefore it seems strange that no trace of it is to be found among the many mummy bandages which have been unrolled of late years. They are all made of linen. Yet we know that beautiful cotton robes were woven in Egypt in early times, some of which have been preserved to the present day and are now to be seen in the Louvre at Paris. They have blue borders, and are embroidered in different colours. Perhaps they were thought too valuable to be buried with the dead, and were handed down as heirlooms from father to son.

(Continued on Page 23)

American Association Meeting

The current problems of the textile manufacturing industry and possible means of attaining stabilization within the industry will be discussed in the principal addresses which will be delivered before the American Cotton Manufacturers' Association, in thirtieth annual convention at Atlanta, Ga., May 18-19, according to an announcement by W. D. Adams, secretary of the association.

Improved merchandising methods, as related to the problem of stabilization, will be treated exhaustively in addresses by practical mill men, Mr. Adams said. Another important matter, on which the Association may take definite discussions, will be that the assembly and use of complete and accurate statistics on the textile industry in adjusting production to meet the current demand it was explained.

In the present disturbed conditions within the textile industry, the matter of close co-operation in handling vital problems of trade, research and such matters is being emphasized, and this will be one of the topics of high interest to the textile manufacturers, said Mr. Adams.

Various other problems related to the textile industry will be considered at the sessions of the convention, including the necessity for constructive farm relief legislation, "to the end that the purchasing power may be increased for that great group which is the ultimate consumer of approximately 50 per cent of Southern mill production," it was explained.

Headquarters of the convention will be at the Atlanta Biltmore, a fine new $6,000,000 hotel, where all available rooms have been reserved for members and guests who will attend the convention. Approximately 400 reservations have been made, and Mr. Adams said indications are that the approaching convention will be one of the most important and largely attended in the history of the Southern cotton manufacturing industry. Atlanta and Georgia business interests are making elaborate plans for the entertainment of the manufacturers and their guests.

Mr. Adams, in a discussion of the convention plans and the program, stated that " the cotton manufacturers throughout the South for some time past have been aggressively considering these vital problems that will be considered at this convention. It is hoped that some real constructive measures will be outlined at this session, with this view.

"President W. J. Vereen, of Moultrie, Ga., clearly expressed the situation when he recently declared: "The goal toward which we are bending every energy is the stabilization of the cotton textile industry, not "on our backs," as has been the case largely in the recent past, but "on our feet," so to speak, paying good wages to our operatives, on a full-time employment basis, rendering a real and economic service to the public, providing healthful and attractive working and living conditions for our people and earning a reasonable net profit for our stockholders.

"'To achieve such an end, our methods of distribution must be improved to meet changing market conditions, we must keep closer in touch with the statistics of the industry as to production, stocks, unfilled orders, etc., we must cease the speculative production of stock, adjust our output to meet the requirements of distribution and our prices must be such as to yield a fair return on our investments. I am sincerely hopeful that plans will be initiated at the approaching Atlanta meeting that will result in the realization of this aim.'

"A highly attractive program has been arranged. President Vereen, in his annual address will review and analyze conditions in the industry, with significant and timely data, and will offer suggestions which will furnish the basis for pertinent discussion at later sessions. That the textile manufacturers have a vital concern in the wellbeing and prosperity of agriculture—not merely of cotton growers, but the great farm group as a whole—will be emphasized by T. Meredith, of Des Moines, Iowa, editor of Successful Farming, and one of the country's leading economists. He will discuss the subject from the agricultural point of view, with particular application to the interests of Southern cotton mill men. Dr. G. W. Dyer, of Vanderbilt University, at Nashville, Tenn., will speak on 'The Mission of Industry and the Part It Pay in Our Econmic Life.' Other speakers will address themselves to various problems of immediate and practical concern."

One of the features of the convention will be the open forum discussion, on textile trade information statistics, scheduled for the afternoon session of May 18. Leading manufacturers, selling agents and others will participate, outlining just what has been accomplished to date in the way of affording manufacturers accurate, complete and up-to-date data on stocks, production, orders, etc.. This will be followed by plans for the extension of this data, and how it may be utilized and applied in the adjustment of production to meet demand.

The annual dinner will be held in the banquet hall of the Atlanta Biltmore, the evening of May 18. In addition to the address by former Secretary Meredith, Dr. Howard Ronthaler, president of Salem College, of Winston-Salem, will speak. Dr. Ronthaler is regarded as one of the ablest and most popular after-dinner orators in the South.

The Atlanta committee, of which George S. Harris is chairman, is planning a number of interesting and attractive entertainment features.

The officers of the association are W. J. Vereen, Moultrie, Ga., president; S. F. Patterson, of Roanoke Rapids, first vice-president; J. P. Gossett, of Williamston, S. C., second vice-president, and W. D. Adams, of Charlotte, secretary and treasurer.

Handling Rayon Fabrics When Wet

IT is well understood by all persons familiar with this material that the regular rayon yarns, whether produced by the nitro-cellulose, cuprammonum, or viscose methods are subject to very great loss of strength while in a wet condition, though, when dried out again, they regain their full original strength, says James Chittick in the Rayon Journal. This is the case whether the water is hot or cold. Rayon takes up moisture with great rapidity and this weakness becomes apparent very quickly after the wetting-out. Hence, all operations through which the material must pass, when in a wet state, must be conducted with the greatest care and circumspection, and also where the stresses upon the goods can be minimized or eliminated by the employment of suitable mechanical equipment, the use of such adjuncts should never be neglected. The subject is one which the dyers, both of yarns and of piece-goods, have to be most careful about.

Acetate "Silks," owing to their peculiar composition, are much less affected by moisture, and therefore are less easily injured while wet, though they too should be very carefully handled.

One of the special properties of nearly all artificial silks is their great ductility. Elasticity and ductility are two very different things. An elastic substance, when stretched, snaps back like a rubber band. A ductile substance when stretched, such as copper wire, does not spring back. Now, if rayon threads are firmly and considerably stretched, it will be found that the material, while springing back somewhat will be permanently elongated. Therefore, when garments are made of a kind where parts of them may be subjected to heavy stresses, say, at the elbow of a closely fitting knit garment, it will follow that the material will become more or less stretched, or baggy, at the points of stress. This tendency to elongate is greater when the material is wet. Consequently, it is of interest to all manufacturers who have yarn dyed in the skein when it is returned from the dyer, for if subjected to stretch in that operation, and it is not easy to avoid it, it will follow that the yarn, when returned colored to the manufacturer, may be substantially reduced that went out as 150 denier, may come back as 140 denier, or 130 denier. Determinations on this point will be of real importance both as a basis for calculating how far the dyed material will go in manufacturing, and also as an explanation for differences that might exist in the manufactured goods made from two different dyed lots of the same lot of rayon, in which case it may well happen that one lot has been stretched more than the other.

If rayon is wet out and allowed to dry free from any tension whatever, a shortening might expected. A determination of what this amount of shortening will be is also a point which should engage careful attention of manufacturers, so that in making striped goods in which the foundation material is cotton, silk, or what not, and the stripings are made of rayon (each of the two materials being carried on a separate warp beam), a basis of practice could be worked out for determining the relative tensions to put upon the two yarns in the weaving, so that when the finished goods come into actual service, there would neither be puckering from an undue contraction of the rayon stripes, or a looseness and irregularity of the stripings because they did not contract sufficiently to balance the other portion of the fabric.

These remarks concerning the effect of wetting lead up to observations bearing upon the washing of fabrics or garments made from rayon.

Owing to the basic material being cellulose, almost any kind of soap could be used in the washing of the goods that would be suitable for cotton, so that ordinary laundry soaps would have no injurious effect upon it, although, possibly, the milder neutral soaps might, for some reason, be preferable. The essential thing in the washing is that the goods must be worked in the bath in such a way that they will be subjected to neither pulling, twisting, or rubbing. If pulled when wet, garments will be drawn greatly out of shape, and under substantial stresses, they may be entirely torn apart. Wringing out the water, or twisting, will have a similar effect while rubbing will chafe away the material, leaving it rough, straggly and thin, or perhaps it may be entirely rubbed through.

In preparation for washing a good body of suds be prepared, and at a temperature that would not be too hot for the hands, say around 120° F.—whether cold or hot matters little as far as the rayon is concerned, but the warmer waters will have a more cleansing effect on the dirt, and other foreign materials, which are to be washed out. When the goods are put in, they should be carefully worked up and down in the suds with the hands and squeezed together from time to time, and rayon washes quite easily. After having been worked in the bath long enough to get rid of the dirt, the goods will be carefully, and without stretching, transferred to a bath of clean water where the remains of the soap will be washed out. They may then be lifted and rolled in a cloth, and by the application of reasonable pressure, the

(Continued on Page 33)

Finishing Costs Discussed

HENRY THOMPSON, president of the United States Finishing Company, gave a detailed analysis, at a meeting in New York, of the finishing business of today, with its numerous small orders at low prices, compared with the conditions which prevailed in recent years. Mr. Thompson emphasized that if the hand-to-mouth buying policies of the retailers is to continue, and he believes it will, something must be done either to get higher prices for finishing, or to reduce the present costs, or both.

Mr. Thompson came prepared with an elaborate set of figures, comparing finishing prices in this country with those in England and on the Continent. European prices for finishing are much higher in every instance than ours, but the answer is that they handle work in small units, and obtain remuneration in proportion. In this country, he said, we have approached the foreign system with regard to the size of the units, but have made no progress so far as return to the finisher is concerned. He said:

"Mr. Warner is my reason for being here today. He recently wrote an article for the 'Yardstick' on the hand-to-mouth buying of the retailer. His text was that the ultimate economies are not really economies, but simply shifting expenses and so forth, on to the converter, and from the converter on the finisher in proportion.

Present System Not Temporary.

"At the retailers' convention in January, a banker told them that the retailer is in the middle. I think that this statement inspired Mr. Warner's article. We have to realize that this hand-to-mouth policy is not temporary.

"I believe the system has come to stay. Bankers have proved to retailers so clearly that in order to avoid liquidation of inventory on falling markets, they must carry smaller stocks, that they are going to carry smaller stocks. Now, can we adjust ourselves to this condition, and shift the burden of expense, distributing it fairly to all involved. I am going to try to show the burden imposed on the finisher, through the present method of converting goods.

"I always have wondered why it was that the prices for finishing were so much lower in this country than in England and on the Continent. It was a marvel to me how we could exist at the prices we charged as opposed to the English and the French prices until I looked into their method of doing business. I used to regard the silk printer either as a multi-millionaire or a robber, but when I learned more regarding his business, I saw the justification for the prices charged.

"It all resolves itself into the unit of production. Not long ago, we regarded 25,000 yards as a unit for printing. In England, the textile business is handled in smaller units than here. And it is simply by handling stuff in large quantities that we have been able to get by, charging the prices that we do, and making a profit."

Comparisons Seem Astounding.

Mr. Thompson illustrated his contentions by the use of several charts. These gave comparisons of prices of our printers as against those by European printers. A 68x72 percale in colors is quoted here at 3¼ cents, as against the English price of 4½ cents. In mercerized, the English get 50 per cent more.

In a printed batiste, mercerized, bleach pattern, the price here is 6⅛ cents, compared with the English 10¼ cents.

In a low count printed lawn, 64x60, our price is 3¾ cents, compared with the English 4⅛ cents. In plain dyed goods, the difference is very much more.

The American price for a black Venetian is 63 per cent lower than the English price.

In a mercerized and Shreinered sateen, in black, the English get 89 per cent more than the American price, being 4¾ cents as compared with 9 cents. The difference in light colors is 136 per cent in favor of the English.

In pocketings which are a much buffeted article of commerce, the price of 1¾ and 2 cents, compares with 4½ cents or a difference of 157 per cent.

"We are aware of the necessity of imposing as light a burden as possible on the converter in our prices. Trade in order to be permanent has to be mutually agreeable. We cannot expect to get any more out of it than you do. But we have been staggering under a load of expense in the past six or seven months that has worried us, and so far we have been unable to meet it.

The Finishers' Problem in Detail.

"In the handling of an order for the printing of cotton goods, the following is an idea of the procedure: In the first place we must fit the pattern to the machine. It takes as much handling to do this for 50,000 yards as it does for 10,000 yards. You must remember that 80 per cent of the capital invested in our business, approximately, is in fixed capital and of necessity our profits are largely dependent on the output of

(Continued on Page 31)

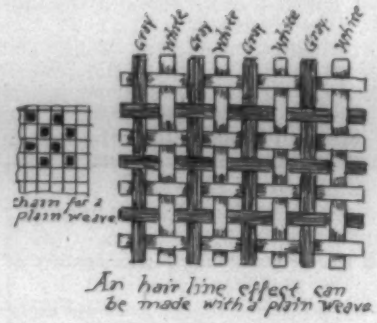
Manufacture of Fancy Goods

This is the fifth in a series of articles on fancy weaving. The next will appear in an early issue. —Editor.

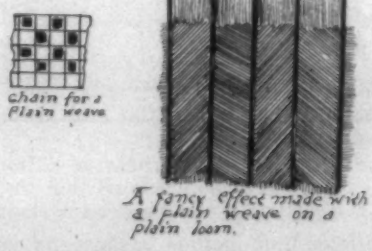
Experimenting Before Installing New Looms.

The management of a plain goods mill may desire to experiment with a line of fancy goods woven on its plain looms before going to the expense of installing new weaving machinery for the production of fancy goods. There are two principal methods of construcing fancy fabrics, one of which is entirely dependent on the mechanism of the loom to form the patterns and the other is not dependent upon the loom for its designs but upon the employment of fancy yarns. That is, instead of the yarns of the warp being made up of white or some solid color throughout, stripes, checks, broken effects, hair-lines, herring-bone patterns, and various other textile ornamentation are procured by using variously colored yarns, yarns of opposing twists, knubbed; doubled, spotted, printed, stained or corrugated threads. Swansdowns, straight and broken twilled mayo cloths, plain and diagonal effects in hopsack styles, mat fabrics, and a multitude of other textiles, containing distinguishing characteristics of patterns can be made up of blends of colors and woven on plain cotton looms.

The process of weaving near-fancy or even actual fancy cloths on plain looms by the employment of colored yarns and special arrangement of the same in the woven texture is simple. Color applied to



An hair line effect can be made with a plain weave



A fancy effect made with a plain weave on a plain loom.

plain weaves in its lowest form, for the purpose of weaving something approaching the fancy stage, is effected with one dark thread and one light thread warped alternately throughout the full width of the cloth.

When the pepper and salt designs were in vogue some years ago, the spreckeled effect was produced with one black and one white thread arranged for both warp and filling on practically the same principle and woven on plain looms. The filling is put in like the warp, so that a dark filling thread always covers a dark warp thread and a light filling thread a light warp thread and a form of fancy weave results. If, instead of using two colors only, variously colored yarns are used, some very neat striped effects and checked patterns can be woven. An hair-line effect of this nature is shown in the drawing. If properly laid out and woven the lines in this pattern will show solid and continuous. An examination of the intersecting thread will show that the gray warp threads are always covered by the gray filling threads and the white warp threads by the white filling threads. This weave requires two shuttles, but as plain looms with a two shuttle movement are common, no difficulty will be experienced in weaving textures of this class. The harness movement is the plain one up and one down, the chain draft of which is shown.

Fancy Effect Produced With Yarns of Opposite Twist.

In England, the open hand or the cross band system of twisting thread on the cotton system makes it possible to weave certain effects on a plain loom by simply employing a combination of the differently twisted yarns. In this country the two systems of twisting are termed right and left twists, in lieu of open or crossband twists. When the fibers of a thread are twisted in a certain direction in the formation of the strand, and the fibers of another thread are twisted the other way, and the two strands placed side by side, the difference in appearance is apparent.

A stripe effect like that shown in the lower drawing can be made on a plain loom with one color filling and consequqently a one shuttle movement by arranging four, six, eight or any number of gray or other colored threads in a warp formation made up with the two systems of twists in the yarns. One set of gray threads would be composed of the left twisted threads and the adjoining set made up of the right twisted threads. Between each set of threads a heavy black

(Continued on Page 27)

Practical Discussions By Practical Men

Cotton Fibre Strength.

Editor:

What is the strength of an ordinary cotton fibre?

Weaving Patterns on Plain Cloth.

Editor:

As I understand that some fancy patterns can be woven on plain cloth for a back ground I would appreciate it if some designer would give me some example of this kind of work. Weaver.

Answer to G. A. S.

Editor:

Inanswer to the question by G. A. S., who is trying to get better results on his drving frames, I would like to suggest that I do not think that he would derive any benefit from his drawing frames by making his sliver any heavier. Judging from his inquiry, he must be in very close may be that he cannot make a light- quarters on getting production. It er grain sliver and keep up.

I have run looms where it was impossible to lighten up and get the required production, but if G. A. S. will reverse this and make a 55 grain sliver and can even retain his present 300 r. p. m. drawing speed by watching his waste at the drawings and cards closely, he will de better work if h ecan stand to go to 250 r. p. m. and 55-grain sliver it is still in his favor if production can be maintained sufficiently high to run the spinning.

I do not know what his draft is, but no drawing should exceed its double at the back. If you are working on quality and are after quality don't ever go over 60 grain sliver on the drawing, for the reason that the shops have standard size weights on the rolls for weighting them down and when you take into consideration the depth of the flutes of the metallic rolls and the bulk, which is 360 grains, entering the back you will note that this depth in the flutes is just about filled to capacity and under the draft friction upon them, even at 250 r. p. m. they will allow some slip and uneven draft.

My advice therefore, is to go lighter instead of heavier, if you can.

J. F. L.—Alabama.

Answer to Dunno.

Editor:

In answer to question by "Dunno" regarding movement of shuttles between ends on cloth three times width of looms. It will take six harnesses to weave cloth three times the width of the loom drawn in 6—5, 4—3, 2—1. 6—5 will weave one-third of the width, 4—3 will weave one-third. or the second-third, 2—1 will weave the last third. The filling will go through as follows: First pick, it will go through 6 and 5 harnesses, 6 harness raised 5—4—3—2—1 down. Returning it will go through 4 and 3 harnesses, 6—5—4 raised, 3—2—1 down, next pick it will go through 2 and 1, 6—5—4—3—2 raised, 1 down and we have now one pick of cloth three times the width of loom.

Now, to return fourth, 6—5—4—3—1 up or raised, 2 down, fifth pick, 6—5—3 raised 4—2—1 down, sixth pick, 5 raised 6—4—3—2—1 down, and now there should be two picks of cloth three times the width of the loom.

There are a number of interesting things which also enter the manufacture of cloth of this construction as for instance the loom will have to be geared up to put in three times the number of picks desired. The production in yards will only be one-third of the figured production and if there are to be stripes care will have to be taken in laying out the pattern. Also, the question of selvedges will have to be considered carefully, but I am not a weaver, I am a carder. Carder.

MUCH INTEREST IN SPINNING CONTEST

The announcement of our prize contest on "Causes of Bad Spinning" has already created a great deal of interest among our readers and the contest promises to become one of the most interesting and valuable that we have ever conducted.

Up to the time of going to press seventeen articles had already been received. As articles may be entered until May 15, we are expecting a very large number before the closing date.

We advise our readers to enter the contest promptly. Make your article as practical as possible. Do not hesitate to enter the contest because you do not feel that you are a good writer. Just write out your ideas and we will take care of the spelling and grammar.

For the purpose of the contest we will assume that the lapper room and card room are running good but the spinning room is running badly.

How many different things could cause the bad running spinning? Which would be the most likely causes?

If you took charge of a spinning room under such circumstances what steps would you take to make the work run good?

We want this contest to bring out the ideas of the best spinners in the South.

After the contest is closed the articles will be printed in book form and for many years will be studied by the young men in the spinning rooms of the South.

The following rules will govern the contest.

Contest Rules.

1. Articles must not be longer than three full columns.
2. Articles must be signed with assumed names but the real name and address of the writer must be known to us.
3. The subject, CAUSES OF BAD SPINNING, will include anything that has a bearing upon the subject. It is to be assumed that the card room is running well but not necessarily making good roving.
4. Articles must be original and articles that include paragraphs or sections copied from other articles on this subject will be thrown out. The contestants and all of our readers will be requested to call our attention to any articles that show evidence of having been copied.
5. Articles will be published by us in the order received and the judges will be instructed that where two are of equal merit the decision shall be given to the one received first. It is therefore advisable to mail articles as early as possible.
6. In mentioning machinery the name of the maker can not be given. This rule will not apply to special machinery or attachments that have no competitors.
7. Articles which are received after May 15, 1926, will not be considered in the contest.
8. The contest will be decided by seven practical men who, acting independently of each other, will read the articles and give us their opinion relative to which is the best and second best. A vote for first place will count one (1) and a vote for second place will count one-half (½).
9. The article receiving the largest number of the judges' votes will be declared the winner and its writer will receive $25.00. The writer of the article which receives the second largest vote will receive $15.00, and of the third best, $10.00.

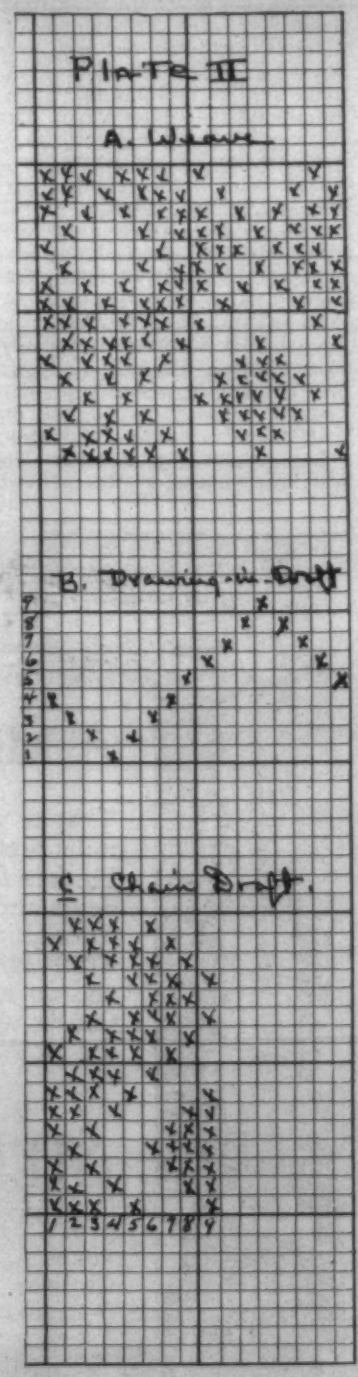
The writer of the best practical article contributed to this contest will receive $25.

The second prize will be $15 and the third prize $10.

Harness Draft.

Editor:

In regard to the answer of H. D. M., to So and So, I notice that H. D. M., gives a harness draft for drafting the weave given to the lowest number of harness. This draft is O. K., but a harness draft should always be as simple as possible in order to enable the drawing-in hand to draw the warp in the least possible time with the chance of misdrawing on her part reduced to the



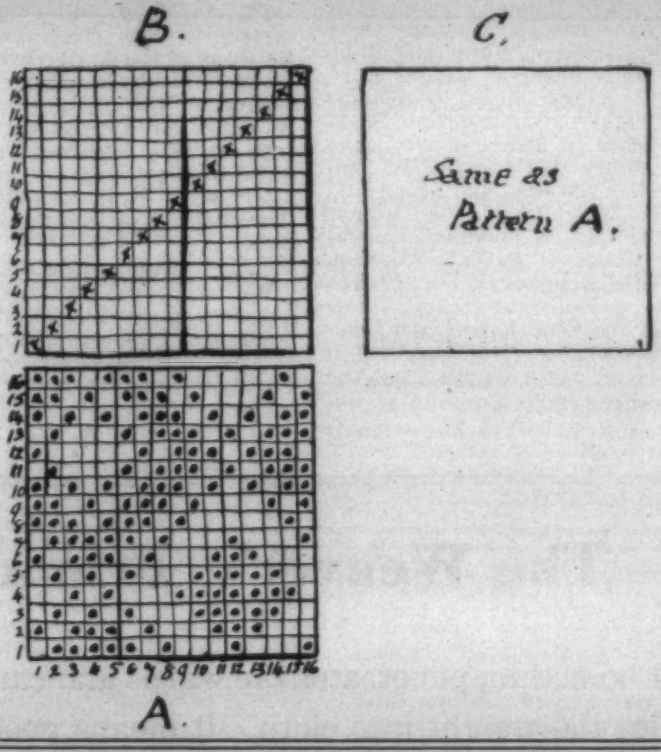
with little chance of making a misdraw.

Plate Number 1 gives the A weave B drawing-in draft and C chain minimum. Also the drawing-in draft should be as simple as possible in order that the weaver may

quickly draw in any broken ends draft or lifting plan, according to H. D. M. In B it will be noticed the first end is drawn through the sixth harness, the second through the seventh, etc., until the seventh end is reached, which end is drawn through the first harness which causes the skipping of four harnesses with the chance given by this pump for error in drawing-in on the part of the drawing-in girl or by the weaver. Continuing from this harness no harnesses are skipped until the remainder of the repeat has been drawn-in, then after finishing the repeat by drawing the sixteenth end through the first harness, four harnesses are skipped and the seventeenth end is drawn through the sixth harness.

Plate Number 2 gives A,the weave, B drawing-in draft and C chain draft. You will notice that the drawing-in draft is a regular point draft beginning with the first end drawn through fourth harness and the sixteenth end drawn through the fifth harness, the seventeenth end would be drawn through the fourth harness which is the beginning of the repeat. Thus there would be no harnesses skipped in drawing-in the warp. The chain draft would have to be changed somewhat from the chain draft (c) given in plate Number 1. Chain draft (c). Plate Number 2 shows the lifting plan for the harnesses drawn-in according to drawing-in draft B plate 2.

Young Designer.



Answer to Curtain.

Editor:

Regarding leno bordered goods, the accompanying cut will give you

a good idea of a nattractive border narrow goods. Very fine plain goods, say one yard wide decorated with for a wove ncurtain in either wide or variations along the line suggested would doubtless prove attractive sellers.

The illustration was woven in one of lour largest New England mills that specialize in one department in the weaving of fancy bordered curtain cloths. This sample is of the "full-twin" leno type. LENO.

Faith in Our Textiles.

Evidence that Greenville enjoys the confidence of investors, at home and abroad, was given in the quick disposal of Judson mills issue of $1,000,000 class B preferred stock, which was offered a short time ago.

The secret of Southern textile growth has been management, especially is this true of Greenville. The quick flotation of the Judson stock is a high tribute to president B. E. Geer and the men he has associated with him in the management of Judson Mills.

One million dollars added to the working capital in Greenville is not only a vote of confidence to Judson Mills but is also an expression of faith in the present and future prosperity of the Greenville textile district.—Daily Piedmont, Greenville,

Mill Men and Selling Agents Hold Conference

MEMBERS of the South Carolina Cotton Manufacturers Association, meeting with a delegation of leading commission merchants of New York, at Spartanburg last Friday discussed present conditions in the textile markets and the wisdom of regulating production so as to avoid the accumulation of stocks.

The selling agents informed the manufacturers that the difference between spot and December cotton quotations is leading buyers to believe that lower prices on cotton goods and yarns will follow and is bringing textile trading almost to a standstill.

These facts were given out in a statement from J. Choice Evins, president of the South Carolina association. Mr. Evins added that the selling agents assigned the reason for the buyers' withdrawal from the market to this cotton price differential, which he said results from widespread reports of large acreage being plant and to prediction of an enormous crop next fall. These reports, Mr. Evins explained, have been disseminated in the hope that farmers would reduce their acreage, but instead of accomplishing the desired purpose, they have frightened buyers of cotton cloth. Consequently there is no stability to the market he added.

Because of this lack of stability, he continued, the selling agents told the manufacturers that the wise course to pursue for the present is to run only on order. The situation is growing more serious, and grave dangers attend the manufacture of cotton cloth which has not been sold, but must be stored in warehouses until a market can be found, Mr. Evins said.

Every manufacturer must judge for himself the extent of operations which he will carry on during the present depressed state of the market, Mr. Evins pointed out. Curtailment of output could not be discussed in the conference, nor can concerted action on the part of the manufacturers be taken, he said. It is certain, however, he added, that when orders cease coming in, production must be reduced.

It was brought out during the conference, Mr. Evins said, that there are only two classes of cotton goods, both novelties, which are now selling at prices allowing manufacturers a profit on the basis of spot cotton quotations. The paralyzed state of the market, he explained, has existed for the past two months.

Mr. Evins explained that the purpose of the meeting, which was held in the ball room at the Cleveland hotel, was to enable manufacturers and commission agents to secure an accurate and comprehensive survey of the conditions now existent in the industry. Approximately 75 per cent of the textile plants of South Carolina, and six in North Carolina were represented at the conference, he said. This included all of the local cotton mill presidents, a majority of those residing in Greenville, and many from other cities and towns.

The visitors from New York were as follows: William H. Baldwin of Woodward, Baldwin company; Bertrand H. Borden of M. C. D. Borden and Sons and the American Printing company; John E. Rousmaniere of S. Lawrence and company; William Fullerton of Wilson and Bradbury; Mr. Williams of Cannon Mills; David Jennings and W. G. Galland of J. P. Stevens and company; Spencer Turner of Turner-Hasley company; Ridley Watts and C. W. Dail of Ridley Watts and company; George Walcott of the Hunter Manufacturing & Commission company; Howard Baker of West, Baker and company; G. H. Milliken of Deering-Milliken company; Julius Cone of the Cone Export and Commission company, (Mr. Cone lives in Greensboro, North Carolina, but the main offices of his company are located in New York); Elroy Curtis of Fleitman and company; Edward Martin of Langley and company; F. L. Keen of William Iselin and company.

Edwin Farnham Greene of Boston, president of Lockwood, Greene & Co., and treasurer of the Pacific Mills company, was also there, as he expressed it, as a guest of the South Carolina Cotton Manufacturers Association.

Mr. Milliken said that a majority of the selling agents of New York were represented. Those who were not here, he added, wanted to come but were unable to leave New York at the time.

The party of selling agents returned to New York last night. Members of the South Carolina Cotton Manufacturers association began leaving for their homes immediately after the conference ended at 2:30 o'clock Friday afternoon Some remained long enough to take lunch in the hotel, but others began their homeward journeys immediately.

Outlook Good.

Mill men who attended the conference, were as rule optimistic over the outlook, although admitting that at present business was very slow. They pointed out that with the present belief of a very large cotton crop,

(Continued on Page 26)

Those Present At Boston

The following cotton manufacturers were among those who attended the International Textile Exposition at Boston, Mass., last week:

W. C. Cobb, Supt., Ware Shoals (S. C.) Mfg. Co.
P. A. Gwaltney, Gen. Supt., Marlboro Mills, McColl, S. C.
H. P. Parks, Pres., Parks Cotton Mills, LaGrange, Ga.
J. A. Lyon, Supt., Orr Cotton Mills, Anderson, S. C.
J. D. Beacham, Supt., Chiquola Mills, Honea Path, S. C.
J. O. Corn, Supt., Pacific Mills, Columbia, S. C.
Thos. Nelson, Director Textile School, N. C. State College, Raleigh, N. C.
J. Lander Gray, Vice-Pres., Gray-Separk Group of Mills, Gastonia, N. C.
A. W. McMurray, Pres., Belmont Cotton Mills, Shelby, N. C.
Hyman L. Battle, Mgr., Rocky Mount (N. C.) Cotton Mills.
L. S. Neal, Pur. Agt., Carolina Cotton and Woolen Mills, Spray, N. C.
Archibald Meikle, Supt., F. W. Poe Mfg. Co., Greenville, S. C.
Clifford J. Swift, Vice-Pres., Swift Spinning Mills, Columbus, Ga.
J. W. Roberts, Overseer of Weaving, Gibson Mills, Concord, N. C.
L. W. Clark, Mgr., Carolina Cotton and Woolen Mills, Spray, N. C.
I. B. Grimes, Gen. Supt., Elm City Mills, Unity Cotton Mills, Valley Waste Mills, and Milstead Mfg. Co., LaGrange, Ga.
Albert Lehman, Supt., Dixie Cotton Mills, LaGrange, Ga.
B. N. Ragsdale, Supt., Unity Spinning Mills, LaGrange, Ga.
R. L. Huffines, Pres., Rockfish Mills, Hope Mills, N. C.
D. C. Williams, Supt., Rockfish Mills, Hope Mills, N. C.
W. B. Bobo, Gen. Mgr., Judson Mills, Greenville, S. C.
B. N. Ragsdale, Supt., Unity Spinning Mills, LaGrange, Ga.
Jno. L. Robinson, Supt., Aurora Mills, Burlington, N. C.
C. E. Bailes, Pur. Agt., Kendall Mills, Charlotte, N. C.
C. S. Doggett, Director Textile School, Clemson College, S. C.
H. H. Holcombe, Gen. Mgr., Strowd-Holcombe Cotton Mill, Birmingham, Ala.

The following machinery and supply men were also present:

Geo. W. Pritchett, Morse Chain Co., Charlotte, N. C.
Mr. and Mrs. H. E. Matthews, Morse Chain Co., Charlotte, N. C.
Robt. Horning, General Electric Co., Charlotte, N. C.
Walter Gayle, Saco-Lowell Shops, Atlanta, Ga.
W. R. O'Hara, Stafford Co., Charlotte, N. C.
Phil. Heyward, Crompton & Knowles Loom Works, Charlotte, N. C.
H. M. Barker, Taylor Instrument Co., Atlanta, Ga.
Earl Stall, J. E. Sirrine, Inc., Greenville, S. C.
J. W. Stribling, Universal Winding Co., Atlanta, Ga.
G. P. Patterson, J. E. Sirrine, Inc., Greenville, S. C.
H. D. Haney, Industrial Fibre Co., Charlotte, N. C.
Fred H. White, Machinery Agt., Charlotte, N. C.
Rogers W. Davis, Saco-Lowell Shops, Charlotte, N. C.
Allen Bedell, J. E. Sirrine, Inc., Greenville, S. C.
Fred Dickinson, H. & B. American Machine Co., Rockingham, N. C.
Edwin Howard, Sou. Agt., Fales & Jenks; Woonsocket Machine and Press Co.; and Easton & Burnham, Greenville, S. C.
J. M. Hancock, Hyatt Roller Bearing Co., Charlotte, N. C.
E. A. Terrell, Terrell Machine Co., Charlotte, N. C.
W. B. Pratt, Jos. Sykes Bros., Charlotte, N. C.
Mr. and Mrs. John Hill, Mill Engineer, Atlanta, Ga.
Mr. and Mrs. Geo. F. Bahan, Emmons Loom Harness Co., Charlotte, N. C.
Harry C. Cole, Saco-Lowell Shops, Charlotte, N. C.
Fred P. Brooks, Saco-Lowell Shops, Charlotte, N. C.
W. H. Porcher, Whitin Machine Works, Charlotte, N. C.
R. I. Dalton, Whitin Machine Works, Charlotte, N. C.
W. P. Vaughn, U. S. Ring Traveler Co., Greenville, S. C.
Geo. L. Crisswell, Hopedale Mfg. Co., Greenville, S. C.
Harry Roberts, Allis-Chalmers Mfg. Co., Atlanta, Ga.
L. E. Wooten, Lestershire Spool & Bobbin Co., Charlotte, N. C.
L. W. Thomason, N. Y. & N. J. Lubricant Co., Charlotte, N. C.
Falls Thomason, N. Y. & N. J. Lubricant Co., Greenville, S. C.
W. C. Taylor, N. Y. & N. J. Lubricant Co., Greensboro, N. C.
W. H. Higginbotham, N. Y. & N. J. Lubricant Co., Atlanta, Ga.
D. C. Dunn, The Stafford Co., Charlotte, N. C.
Robert Poole, The Draper Co., Charlotte, N. C.
Fred Glover, Textile Mill Supply Co., Charlotte, N. C.
David Clark, Southern Textile Bullein, Charlotte, N. C.
Junius M. Smith, Southern Textile Bulletin, Charlotte, N. C.
R. W. Philip, Cotton, Atlanta, Ga.
A. B. Carter, Mill Supplies, Gastonia, N. C.
Ernest Potter, S. K. F. Industries, Charlotte, N. C.
J. H. Spencer, Barber-Colman Co., Greenville, S. C.
Jas. A. Greer, Wool and Cotton Reporter, Greenville, S. C.

Italian Raw Silk Market Dull.

The Bulletin of the Italian Silk Association reports that, owing to the high price of cocoons and the heaviness of the selling market, the Italian raw silk inddustry finds itself in a difficult situation, states a report to the Department of Commerce from E Humes; clerk to commercial attache, Rome. February and the early part of March continued to be a buyers' rather than a sellers' market, although a slight improvement in sales was evident.

Cotton Mill Processes and Calculations

By D. A. Tompkins.

Copy Revised for Third Edition.

(Continued from Last Week)

SPECIFICATIONS.

363. Following is a sample specifications blank to be filled out in ordering twister:

Number of Frames
Wet or Dry Twist
No. Spindles per Frame
Length Over All
Gauge
Size of Ring
Kind of Ring
Ply to be Twisted
Number of Single Yarn to Twist
One or Two Lines Bottom Rolls
Single or Double Boss Top Rolls
Traverse
Warp or Filling Wind
Kind of Spindle
Kind of Bobbin (send sample if to match present bobbins)
Twist per Inch to Start on
One or Two Tin Cylinders
Size Tin Cylinders
Size Spindle Whirl
Size of Pulleys
Speed of Pulleys
Driven from Above or Below
Spindle Brake
Stop Motion
Special Features
Maker
Purchaser
Price
Terms
Remarks

Chain Warping.

364. This is the drawing together of a number of strands or "ends" of yarn into a compact mass, and linking it in such a way that it will not tangle when shipped. This is usually done on a Denn Warper.

Denn Warper.—Fig. 58.—LETTERING.

A Creel.
B Bobbin Creel.
C Eye Board.
D, E, Rolls.
F Lease Rod.
G Heddle or Harness.
H, J, Pin Leaser.
K Measuring Roll.
K′ Top Roll.
L Stretcher Roll.
M Collecting Eye.
N Collecting Calender.
N′ Leather Covered Top Calender.
P Trumpet.
Q Linker.
R Chain of Yarn Delivered.

S Dynamo for Electric Stop Motion.
T Electric Wires.
U Annunciator.
V Bell.
W Drop Wires for Electric Stop Motion.
Z Creel Strips.

Denn Warper.—PROCESS.

365. Whether single or ply yarn is to be warped, it is first spooled. The spools are put up in the creel.

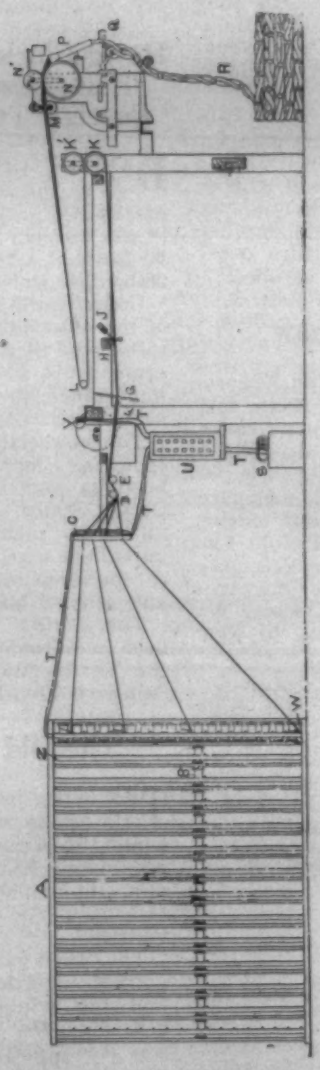


Fig. 58. Denn Warper.

Each end is drawn from its spool and passed through its drop wire on the creel and through its eye in the eyeboard.

The ends are spread out in a sheet and carried over and under the rolls D, E.

Alternate ends are threaded through eyes in the heddle. The other ends are threaded between the healds.

Heddle is pulled down an inch or two, thus making a shed, in which lease rod is placed. Heddle is then returned to its level position.

The ends are collected in groups of 2 to 20 (according to specifications for the chain that is being made) and threaded through the pin leaser, more fully described in (368).

Sheet is passed under and over rolls, as shown, through collecting eye M, where the sheet is collected into a bundle or strand and passed between the calender rolls N, N′ and trumpet P to the linker, which forms links in the bundle of yarn,

(Continued on Page 28)

SOUTHERN TEXTILE BULLETIN

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DAVID CLARK — *Managing Editor*
D. H. HILL, JR. — *Associate Editor*
JUNIUS M. SMITH — *Business Manager*

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Governor McLean Decides Upon Survey

GOVERNOR McLEAN has ordered an investigation of "women in industry" in North Carolina, said investigation, to be made by regularly constituted State authorities.

This conforms with the position that we have taken from the beginning and meets with our entire approval.

We opposed any survey being made by the Meddling Departments of the University of North Carolina because it is not a proper function of a University.

We opposed it being made by Federal agents from Washington, D. C., because it is none of their business. The sovereign State of North Carolina can attend to its own affairs without the aid of Washington bureaucrats.

If there is any reason to believe that "women in industry" are not being properly treated it is entirely proper that State authorities should investigate.

If they are being employed under conditions injurious to health it is proper that Dr. Cooper, secretary of the State Board of Health should investigate.

If laws relative to hours or minimum ages is being violated it is proper that E. F. Carter, the Executive Officer of the Welfare Commission should investigate.

It is also entirely proper that Mrs. K. B. Johnson, Commissioner of Public Welfare should have supervision over the survey.

As we have often stated, the cotton manufacturers of North Carolina have nothing to hide and welcome any investigation by proper authorities, but do not intend to submit to investigation by Federal authorities or University professors.

It is amusing to note that the investigation will not include the largest class of employed women that is the women in domestic service.

It would be exceedingly interesting to have a survey showing the wages paid women in domestic service, the hours employed and the treatment received.

The Spartanburg Meeting

THE conference at Spartanburg, S. C., last Friday between manufacturers of print cloths and sheetings and their New York selling agents was an important event and was a forward step.

It indicated that the industry has learned the need of co-operation and that there should not be any accumulation of goods.

As buyers are watching the situation closely, there was rather too much pessimism in the official statements, but these were counterbalanced by the more optimistic expressions of the commission merchants who attended.

The situation today is entirely logical and is not nearly as bad as is generally supposed.

How can anybody expect buyers of cotton goods to buy heavily and far in advance when everybody is predicting 12-cent cotton? For them to do so would be contrary to all the laws of good business.

Under the situation that exists, we consider that cotton goods business has held remarkably well and indicates a latent demand that will be felt as soon as cotton declines or there are crop developments that make any material decline unlikely.

For several years cotton mills have had to curtail during the summer and after they had accumulated goods.

If there must be some curtailment it is far better to curtail before goods and yarns have accumulated and are a weight upon the market.

An outstanding fact and one of the milestones in the development of cotton manufacturing in the South is that fine yarn mills in Gaston county, which are fully supplied with orders, are doing their bit by curtailing equally with the fine yarn mills that are short of orders.

It shows a splendid spirit of co-operation and marks the passing of the idea of "every man for himself."

By joining with the others they have insured curtailment without which, in a short time, they would have felt the weight of accumulated yarns.

If the weaving mlls in South Carolina that have ample orders for full time operations, have the same spirit of co-operation and curtail equally with less fortunate mills, we can, indeed, say that a new day has dawned and that the future prosperity of the industry is assured.

The Boston Show

THE International Textile Exposition held at Boston, Mass., last week was a success in every respect except the attendance from the South.

As the Southern mill men are not feeling very prosperous ot this time and are having a Textile Exposition of their own next Fall, only about twenty-five made the trip and, with most of them, it was incident to a business trip to New York.

The most interesting feature of the Boston show was the long draft spinning, of which, four forms were shown.

The Casablancas system was shown by the American Casablancas Corporation. The Le Blan Roth and Saco-Lowell four roll system were shown by the Saco-Lowell Shops. The Butler system was shown by Leigh & Butler.

All systems were carefully inspected by the mill men present and it was very interesting to hear the different opinions.

Also of considerable interest, were two forms of roving stops for spinning frames and an attachment for putting on spinning bands with uniform tension.

In our last issue we gave descriptions of all the exhibits and while we would like to comment upon interesting features in many of them we can not do so without covering the others and our limitations of space prevents an extended discussion.

The Exposition was as a whole very good and many of the exhibits were prepared with the expenditure of much time and money.

We doubt very seriously if, in many cases, the results of such exhibitions justified the very heavy expenditures.

It is of course, very nice to be able to make a beautiful display of machinery, but we wonder if the resultant business including the after-effects, is justified in many cases.

With a specialty or with a product that can be shown in a small space without much preparation cost, the results are almost always satisfactory, but when very large sums have to be expended it requires a large amount of resultant sales to justify same.

The Boston Show was in every respect equal to those which have preceded it. The various exhibits were very representative of the improvements that are constantly being made in textile machinery and eqiupment and should be of great benefit in showing the progress that has recently been made in machinery development.

David Clark to Represent Business Papers at Foreign Trade Conference

DAVID CLARK has been appointed as the official representative of the Associated Business Papers, at the Foreign Trade Convention to be held at Charleston, S. C., April 28th, 29th and 30th.

Unfortunately the annual meeting of the Associated Business Papers is to be held at Absecan, N. J., on the same dates, but on account of the importance of the Charleston convention Mr. Clark will go there.

The Associated Business Papers comprise most of the leading business and trade papers in the United States. In order to be admitted to membership a jounrnal must have a recognized position and a reputation for conducting a clean and ethical business.

The textile journals that have been admitted to membership are the Textile World, Cotton and the Southern Textile Bulletin.

The Old Steel Game

THE notice in our last issue about the game being played by the Union Steel Company of America was wired from Boston, Mass., by our editor who had just met the treasurer of a mill that had been a victim.

The "steel game" which consist of getting an order for a car load of tool steel, while the mill thinks it is ordering a few small samples pieces, was freely played about twenty-five years ago and again ten years ago, and some of the steel purchased twenty-five years ago is still in mill warehouses.

The present game has been very successful and we can name four mills that have received a car load of steel bars and bills for about $700, but we hope that nobody has been foolish enough to pay.

The Union Steel Company, of course, threatens suit but will not dare to sue and one mill that absolutely refused to compromise or to pay one cent has received shipping instructions.

It is a plain case of fraud and instead of receiving any money the representatives of the Union Steel Company of America will be lucky to avoid convict clothes.

If the first mill that was victimized had promptly notified us, it would have prevented other mills being defrauded.

We can in such case always be depended upon not to publish the name of the mill.

Personal News

J. M. Williams has resigned as superintendent of the Irene Mills, Gaffney, S. C.

J. P. Williams has resigned as superintendent of the Georgia Manufacturing Company, Whitehall, Ga.

A. W. Young has resigned as superintendent of the Grace Mills, Rutherfordton, N. C.

J. F. Ferguson has resigned as overseer of spinning at the Rex Spinning Company, Ralon, N. C.

—. —. Brown of Chester, S. C., has become overseer of spinning at the Wymojo Mills, Rock Hill, S. C.

W. E. Morton has been promoted from carder and spinner to superintendent of the Cannon Mills, York, S. C.

J. T. Davis, formerly of Gaffney, S. C., has acepted the position of overseer weaving at the Fountain Cotton Mills, Tarboro, N. C.

H. T. Davis has resigned as night carder and spinner at the Rowan Cotton Mills, Salisbury, N. C., on account of ill health.

J. V. McCombs has resigned as superintendent of the Hart Cotton Mills and the Fountain Mills, Tarboro, N. C.

E. Y. Ferguson has accepted the position of night overseer of spinning at the Dunn Mill, Gastonia, N. C.

R. L. Jordan has resigned as overseer carding at Iva Mills, Iva, S. C., and acepted a similar position with the Kendall Mills, Paw Creek, N. C.

J. B. Wright, formerly superintendent of the Nokomis Cotton Mills, Lexington, N. C., has accepted a similar position at the Irene Mills, Gaffney, S. C.

J. W. Bost has resigned his position with the Jewell Mills, Thomasville, N. C., to become superintendent of the Grace Cotton Mi... Rutherfordton, N. C.

Fred Wofford has resigne... overseer of spinning at the W... Mills, Rock Hill, S. C., to acc... similar position at the Rex Sp... Company, Ranlo, N. C.

—. —. Lineberger has resig... night spinner at the Dunn Mil... tonia, N. C., to accept the day... ning at the Clara Mill of the... place.

K. C. Etters, formerly supe... dent of the Baldwin plant ... Aragon-Baldwin Mills, Ches... C., has accepted a similar p... with the Hart and Fountain ... Mills, Tarboro, N. C.

E. A. Hall has resigned as ... intendent of the Cannon Mills ... S. C., and accepted a similar ... tion at the Baldwin plant ... Aragon-Baldwin Mills, Cheste...

C. P. Turner has resigned as overseer of No. 4 spinning at the New England-Southern Mills, Pelzer, S. C., and is now superintendent of the Georgia Manufacturing Company, Whitehall, Ga.

J. W. Fox has resigned as second hand in weaving at the Chadwick-Hoskins Mills No. 1, Charlotte and returned to his former position as second hand in No. 1 weaving at the Brookford Mills, Brookford, N. C.

R. C. Hinkle has resigned as assistant overseer of spinning at the Cliffside Mills, Cliffside, N. C., to become overseer spinning at the Irene Mills, Lexington, N. C.

B. O. Willis has resigned his position as spooler and warper man at the Mollhon Manufacturing Company, Newberry, S. C., and accepted a similar position with the Joanna Mills, Goldville, S. C.

Clarence Driver has resigned as superintendent of the J. W. Sanders Cotton Mill, Starkville, Miss., to become night superintendent of the Avondale Cotton Mills, Humboldt, Tenn.

George W. Ray has resigned as overseer spinning, spooling and twisting at the Brookford Mills, Brookford, N. C., and accepted a similar position with the New England-Southern Mills, No. 4, Pelzer, S. C.

Paul B. Moore, formerly overseer of weaving at the Bedspread Mills, Spray, N. C., but more recently overseer weaving and assistant superintendent of the Minneola Mills, Gibsonville, N. C., has become overseer weaving at the Irene Mills, Gaffney, S. C.

V. D. LePortier has resigned as superintendent of dyeing at the Samoset Mills, Talladega, Ala., and accepted a similar position at the Maginnis Mills, New Orleans. Mr. LePortier has been with the Samoset Mills since 1920...

MILL NEWS ITEMS OF INTEREST

LaGrange, Ga.—The Unity Spinning Mills are installing 2,500 additional spindles.

LaGrange, Ga.—The Valley Waste Mills are installing a number of additional looms.

Milstead, Ga.—The Milstead Manufacturing Company is installing a few additional looms in its plant here.

Elizabeth City, N. C.—The Elizabeth City Hosiery Mills have installed a seven-foot Page Armco fence at their plant here, the fence being sold through the General Equipment Company, Charlotte.

Prattville, Ala.—It is reported that a new hosiery mill is to be erected here by local business men and Chicago interests. It is expected that the mill will be built this summer.

Salisbury, N. C.—The Klumac Cotton Mills have placed orders with the General Equipment Company, Charlotte, for an installation of Page Armco fence.

Roseboro, N. C.—The first step in the establishment of a raw silk producing plant in Sampson county has been taken by the Roseboro, N. C., Chamber of Commerce. That organization has provided for the visit there, from Frederick, Md., of Will Payne, a specialist in silk production and silk worm culture.

Anniston, Ala.—Construction of a boiler house and pump room at the American Net and Twine Company, to cost about $12,000, will be begun as soon as materials and supplies can be assembled on the site by the Ogletree Builders Supply Company. New machinery will be installed in the structure.

Biltmore, N. C.—The Sayles-Biltmore Bleacheries, which is the Southern branch of the Sayles Finishing Plants, Sayville, R. I., is at work upon a mill village of 76 houses on a 200-acre site.

The work, whic his progressing at a fast rate, will cost approximately $2,000,000. The main building will be 160x632 feet, and the auxiliary building, 100x225 feet.

The initial capacity will be 1,000,000 yards weekly, according to present plans.

Patterson, N. C.—A. L. Watts, president of the Watts Spinning Company, Stony Point, N. C., has purchased the Watts Manufacturing Company, of this place, a yarn plant of 4,248 spindles. Mr. Watts has been manager of the company for some time. The plant, village and site of about 600 acres was included in the sale.

It is reported that Mr. Watts plans to improve the mill later and add looms for the manufacture of cotton and rayon goods.

Salisbury, N. C.—A silk dyeing plant is to be established here by the F. A. Tomline Silk Dye Works, of Germantown, Pa. A site has been purchased here and it is understood that the equipment will be moved from the Germantown plant as soon as the building is completed.

High Point, N. C.—The Hillcrest Silk Mills has recently installed a seven-foot Page Armco fence around their new plant here, this fence being sold and installed through the General Equipment Company, of Charlotte.

High Point, N. C.—The High Point Yarn Mills, Inc., have been incorporated here by F. M. Pickett, R. R. Ragan and R. H. Walker, the company having a capital stock of $350,000 authorized. Mr. Pickett is president and treasurer of the Pickett Cotton Mills and Mr. Walker is vice-president and treasurer of the same company.

Swannanoa, N. C.—The Beacon Manufacturing Company is moving 86 more looms from its New Bedford plant to the mill here.

Hope Mills, N. C.—The Rockfish Mills have purchased 9,000 spindles from the Boston Manufacturing Company, Boston, Mass. This equipment is all tape driven and is comparatively new. Part of it will be used for replacement purposes and part as additional machinery. The Rockfish Mills now operate 25,728 spindles, on 26s to 40s yarn.

Roanoke Rapids, N. C.—A recent report that the Rosemary Manufacturing Company was curtailing production and operating on a three-day schedule is denied by W. L. Manning, assistant manager of the company. The concern is operating on full time, Mr. Manning states, and does not at this time contemplate any change in its schedule of operation.

Chattanooga, Tenn. — The new plant of the Central Franklin Processing Company here is just getting into production, according to announcement by Manager J. S. Murray. When capacity is reached the plant will produce 30,000 pounds of dyed yarn a week. It will employ about 75 operatives.

Anderson, S. C. — Contract was awarded by the Appleton Mills, of Anderson, to the Harper Lumber Company, of Honea Path for the construction of 50 houses at a cost of around $50,000, according to announcement by Hugh F. Little, general manager.

Work will begin immediately on the new cottages and they will be ready for occupancy within two months or so. Running water and sewerage will be installed in every house. The contract for sewerage will be let separately and is not included in the above contract.

Mr. Little also made announcement of the purchase of six new napping machines to be installed immediately at a cost of $30,000. The machines were purchased from the Woonsocket Machine Company, Woonsocket, R. I., and will be shipped immediately.

These expenditures aggregating $80,000, represent only a small part of the Appleton Fund for improvement, and enlargement of their local plant and village. The program of enlargement will ultimately call for an outlay of approximately $1,000,000, doubling the capacity of the plant.

Charlotte, N. C.—Affairs of the Mecklenburg Mills Company, which until it went bankrupt in October, 1923, operated a chain of four cotton mills in North Carolina, are fast being wound up, and three petitions and a formal order in regard to settling up the matter were filed in the office of R. L. Blaylock, clerk of United States Court, Western District of North Carolina, at Greensboro.

rder was made by Judge E. Webb, judge of the district, in on in equity known as Coal n National Bank, trustee, of ork City, vs. Mecklenburg ompany, E. F. McGowan, in bankruptcy, and Fidelity ompany, of New York, vs. burg Mills, E. F. McGowan, ohl and the Draper Com- e matter was in connection s the two plaintiffs hold on perty of the Mecklenburg mpany.

ordered that a lien of the Trust Company, bond hold- priority in regard to parcel the property, which was Newton, N. C., on April 1, of the United States Gov- for taxes. Parcel No. 1 of erty sold for $250,000.

ordered that the lien of the ent for taxes in the sum of ve priority over other liens to Parcel No. 2, which was

sold for $3,500. This was upon consent of the Fidelity Trust Company.

First mortgage bonds of the company are held by the Coal and Iron National Bank to the amount of $610,000,802, but the Fidelity Trust Company was successor to some of the liens upon the Mecklenburg Company.

One of the documents filed was from Sidney S. Alderman, an attorney, who as special master sold the property of the Mecklenburg Mills Company at Newton, at auction, according to order of the court. The purchaser was Clarence Hale, of New York City, who made the one and only bid for the property. The property consists of four mills, the Mecklenburg att Charlotte; the Newton and Clyde at Newton, and the Nancy at Tuckertown, Montgomery county. The property was sold subject to a $35,000 mortgage.

Greenville Mills May Adopt Daylight Saving

Greenville, S. C.—For the first time since the World War the cotton mills of Greenville may operate under the daylight savings plan. The proposal has been made and may be adopted that the daylight savings plan be put into effect here, giving an hour more of daylight time for all employes.

The Junior Chamber of Commerce is sponsoring the movement and many assurances of support have been received from mill men who declare they favor the plan. Should the daylight savings plan be put into effect, employes would go to work an hour earlier and get out an hour earlier, thus giving them time to work in their gardens or engage in recreation of any kind. Under that schedule, mills would begin operation for the day at 5 o'clock, and close at 5 o'clock instead of 6 o'clock, Eastern time. By advancing the hands of the clock an hour, however, there would be no confusion in the time, because the mills should be starting and stopping the same as at present.

The agitation for the daylight savings law for Greenville has been spreading during the past few weeks and it is quite possible the plan will be adopted.

Fine Goods Imports Higher

Imports of fine cotton goods during March showed a sharp advance over the totals of the past several months, amounting to 8,247,884 square yards, which compares with 4,886,831 square yards during February and 5,852,920 during January of this year, according to the figures announced by the Department of Commerce.

The largest increase is noted in the classification which includes broadcloths, poplins, madras, oxfords, and other shirtings which amounted to 4,199,046 square yards last month, compared with 2,979,454 for the month previous. This is the largest monthly total of broadcloth imports since April of 1925.

Imports of lawns, organdies, nainsooks, cambrics, and similar fine goods, showed an increase of over 1,000,000 square yards, compared with the previous month, totaling 2,124,633 square yards, compared with 905,734 square yards during February.

On warped sateens woven with not more than seven harnesses, there were 502,729 square yards imported during March, compared with 261,882 square yards during February.

On warped sateens woven with eight or more harnesses, there were 140,280 square yards imported last month, which compares with 62,670 square yards for the previous month.

There were 311,747 square yards of crepes imported during March which compares with 168,443 square yards during February.

Imports on dotted Swisses totaled 19,041 square yards; Ratines, 67,277 square yards; all jacquard woven cloths except swivels, 80,543 square yards; and ginghams, 33,135 square yards.

Textile School Notes

The Textile School of the North Carolina State College has just installed a double shuttle, ball bearing German plush loom of the latest type, which was donated to the school by A. W. Buhlmann, textile engineer, New York City.

This is the first loom of its type to be installed in the South. It will weave pile fabrics from the lightest silk plush to the heaviest mohair upholstery fabrics.

The manufacture of fabrics has been greatly accelerated during the past few years by the demands of the automobile upholstery trade.

New Bedford Operations.

New Bedford, Mass.—A survey of the cotton manufacturing plants of New Bedford shows that between 75 and 85 per cent of the looms of the city are operating full time, while in some instance the machinery is being run nights. It is estimated that the cotton and silk mills of the city are operating more machinery at present than in several years While the spindles are not quite so active, some of the yarn mills are running near normal capacity, and the output in yarn mills is reported between 60 and 70 per cent of full normal capacity.

Obituary

James Maynard.

Knoxville, Tenn.—James Maynard. president of the Brookside Mills, one of the largest textile industries of the South and which manufactures one-fifth of the corduroys and velvets made in America, died at his home here. He was formerly clerk of the Committee on Banking and Currency, House of Representatives, Washington; served as Marshal to Consular Courts in Turkey; lectured on international law at the University of Tennessee, and was president of the Knoxville Manufacturers Association.

He was born in Knoxville in 1853. He took his A. M. degree at the University of Tennessee in 1872; A. B. at Amherst in 1874; and LL. B. at Columbian (now George Washington) in 1885, and the degree of Master of Laws from the same institution in 1892. Mr. Maynard was clerk of the Committee of Banking and Currency in the House of Representatives 1874-1875; commissioner to take testimony for the Southern Claims Commission, 1875-1876; Marshal to Consular Courts in Turkey, 1876-1880; in postal service, Washington, 1880-1894; practiced laws in Knoxville 1894-1898; lecturer on International law 1897-1898; since which time he has been engaged in manufacturing.

He was also a director of the Mechanics Bank & Trust Co., president of the Board of Trustees of Knoxville County Industrial School, trustee of Lawson McGhee Library, and member of the State Board of Charities. Mr. Maynard was Republican member of State Board of Elections Commissioners from 1909 to 1913 and president of the Manufacturers Association, 1903-1904. He was a member of Phi Betta Kappa, S. A. R., also of the Episcopal Church, and of the Irving Club of which he was president.

William C. Jaynes.

Anderson, S. C., — William C. Jaynes died at his home on Lyons street, following an extended illness.

Mr. Jaynes, who was 66 years of age, had been connected with the Orr Cotton Mills for 26 years. At the time the Orr Cotton Mills were under construction, and he came here and has made his home in that community ever since.

For many years he held the position of outside superintendent.

Mill Men and Selling Agents Hold Conference

(Continued from Page 18)

buyers of goods could not be expected to purchase goods for forward shipment and that buyers would doubtless continue their present hand to mouth operations until more definite indications as to the probable size of the coming crop. The most gratifying factor in the situation, mill officials said, is the fact that there has been no piling up of stocks by the mills or in the the markets. There are no large this makes for a vey sound condition, they stated. Any improvement in demand will be immediately felt by the mills, as there are no large stocks to be liquidated before the mills can feel the impetus of a renewed buying movement. Many of the mills are well sold ahead at present, although prices are reported as being very unsatisfactory.

The Spartanburg Herald, following the meeting, published the following statements from some of the selling agents who met with the mill men:

"Despite frank admissions that the market for cotton cloth is unstable and virtually paralyzed at present, some leading textile selling agents who gathered here for a conference with manufacturers sounded optimistic notes on the future of the industry.

"While telling the manufacturers that because of the unstable condition of the cloth market, grave dangers attend the production except where actual orders are received, and that for the past 60 days buyers have refused to purchase because they believe lower prices will follow the existing difference between spot and December cotton quotations, selling agents interviewed by a representative of The Herald expressed optimism at the future for the industry.

Good Business.

"G. H. Milliken, of the firm of Deering-Milliken company, New York, selling agents and owners of large interests in cotton and woolen mills, said that he would feel very unhappy did he not think that the textile business is fundamentally sound and good. He is confident, Mr. Milliken added, that a return of prosperity will be experienced in the industry, and that the depressed condition will not prove permanent.

"While not making definite commitments, Mr. Milliken indicated a disbelief that the use of cotton produts is declining or that there is serious danger of permanent overproduction of the staple. Present lack of demand for goods is being accentuated through timidity caused by fears of a record-breaking cotton crop, too large to be absorbed in one year. Business conditions generally however, are good throughout the country if the textile industry is excepted, and there is reason to look for an increasing demand for its product later, he said. He also indicated that he does not believe west Texas competition offered farmers in the eastern part of the cotton belt will ultimately prove as serious as many now fear.

Reports Exaggerated.

"George Walcott, president of the Hunter Manufacturing and Commission company, expressed the view

that reports on the growing displacement of cotton products by artificial silks have been exaggerated. He also discounted the fear that there is danger of permanent under consumption of cotton products.

"The textile business," Mr. Walcott explained. 'like others, moves in a series of waves. Just after the beginning of the World war we had six-cent cotton, and little demand. The industry then began to move upward, and finally reached a crest when cotton was selling at 40 cents. It moved down the wave in 1921 and 1922, and then advanced again. It has now dropped to the bottom of a trough, but there is no reason to fear that it will not begin to mount another crest. When it begins to move upward, we will see better prices both for cloth and cotton, and a satisfactory demand."

"Edwin Farnham Greene, of Boston, president of Lockwood, Greene and company, explained that as he had come to Spartanburg as a guest of the South Carolina Cotton Manufacturers' association, he did not want to be quoted on textile conditions. He added, however, that he expects to return to this city in a short time, and will then feel free to discuss the situation.

"Latest reports received by local cotton brokers on the plantings throughout the South, according to C. P. Mathewes, are that the acreage is larger than last year, but that work is further behind than it was then. It is not as far behind, however, as year before last. Mr. Mathewes pointed out that conditions, weather and others, may results in part of the acreage now under preparation for cotton being diverted to other crops."

Manufacture of Fancy Goods—5

(Continued from Page 15)

or other colored cord-like thread can be inserted for divisionary purposes and to give smartness to the pattern. The weave can be made with a two-harness movement, one up and one down, although a twill three or four harnesses will produce better results as the difference in the twists of the sets will be more prominent.

The sets in which the fibers in the yarns oppose the twill of the weave will be better defined than when they oppose a plain cotton weave. If the twist of the fibers runs in the same direction as the twill in the cloth, a certain lack of definiteness will result, and this lack of definiteness in alternating stripes in the goods makes the distinction between the definite stripes more visible.

Fancy Twist Threads Available for Weaving in Plain Cloths.

Semi-fancy plain cloths are often produced by the simple process of admitting cloudy, knopped, curled, two-fold, three-fold, four-fold, or diamond twisted yarns into the weave. In this case the ground of the fabric is usually a solid color while the stripping effects are made with the fancy yarns. Curled or looped yarns are made by twisting two or three separate threads of different colors about each other on a twisting frame provided with a mechanical device which causes one or more of the yarns to curl about the threads which is held stationary at intervals just long enough to cause the formation of a loop about it.

Clouded yarns are really lump yarns, for the lumps form the clouds and when the twist is inserted these lumps twirl around while the twist goes into that part of the solid thread between the lumps, thus making the lumps more prominent. When two or more of these lumpy yarns of different colors are combined and twisted together, the lumps form clouded effects and hence the yarns derive the name from that source. The alternate variations in thickness in the strands to make the lumps and ultimately the clouded effect are obtained by an intermittent motion in the delivery rollers of the twisting frame. The knopped twisted yarns are also made by the use of an intermittent motion in the delivery rollers of the twisting frame for the purpose of forming knops or buttons at uniform distances apart on the circumference of the thread. By the use of these different weaves and yarns, it is possible for a mill in which the weaving machinery is of the plain order to feel its way towards the manufacture of fancy goods by trying out certain patterns on its plain looms.

United States Controls Cuban Hosiery Market.

Mercerized cotton, rayon, and plain cotton are the best selling hosiery in Cuba at the present time, Assistant Trade Commissioner O. R. Strackbein, Havana, advises the Department of Commerce. Sales of silk hosiery have suffered a severe slump. Rayon is said to be especially popular in women's stockings and there is no doubt but that this class had made distinct inroads into the thread-silk hosiery business, owing partly to the high duty assessed against the silk. It may b estated that in Cuba, the low-priced articles are outselling the better trades, and that the United States is getting the greater part of the trade. Hosiery shipments from the States to Cuba in 1925 were as follows: Cotton, 600,000 dozen pairs, $1,200,000; rayon, 77,000, $200,000; silk, 44,00, $300,000.

Chilean Hosiery Imports.

Domestic manufacturers supply more than 90 per cent of the low grade cotton hosiery sold on the Chilean market, Commercial Attache Ralph H. Ackerman, Santiago, advises the Department of Commerce. In mercerized, silk, and rayon, hosiery, however, the situation is different. Of the total 165,000 kilos of cotton hosiery imported in 1924, Germany furnished 80,000 and the United States 54,000. Of the total 3,000 kilos of silk hosiery imported in the same year, 1,000 came from Germany, 600 from France, and 500 from the United States, the French article furnishing the principal competition encountered by American manufacturers.

Cotton Mill Processes and Calculations

(Continued from Page 21)

as it passes, and delivers it in the form of a chain, on the floor. A large number of ends may be drawn together this way without tangling.

LEASES.

366. When an order is received at the mill for a chain warp, it contains certain specifications as to number of ends, length, and leases. Leases are divisions of various kinds, made in the sheet of warp at specified intervals and fixed by having cords run through them and tied. There are "thread leases," "pin leases" and "bouts."

THREAD LEASES.

367. The thread lease is sometimes known as "one and one lease," and sometimes as "weavers' lease." Each thread is separated, in the same way as by the lease rods in a loom.

To make a thread lease on the Denn warper, stop the machine and pull down the heddle an inch or two. This deflects half the threads and makes a shed. Run a small cord through this shed. Push up the heddle an inch or two above the warp level and make another shed. Bring the end of the lease cord back through this shed and tie two ends of cord together. The heddle is returned to the level, and machine run a specified number of yards for the next lease.

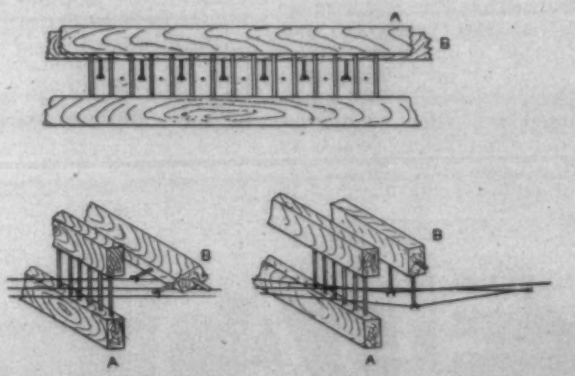

Fig. 59. Pin Leaser.

PIN LEASES.

368. Fig. 59 shows the mechanism for producing the pin lease. In the position shown at the left, the warp is seen passing through the stationary part A, in groups of 2 to 20, as required, while the movable part B is turned on its pivot out of position. The warp thus passes through without being leased. In the position shown at the right, the machine has been stopped, and the movable part B turned down so that the forked wires catch the alternate groups of yarn and deflect them and make a shed. A lease cord is passed through the shed. The part B is raised and moved endwise on the pivots, and lowered again so that the forks depress the other set of groups. The lease cord is returned through the sheds thus formed and tied, as in the case of the thread lease.

369. The pin lease is sometimes known as the "beamer's lease," for the reason that the beamer uses it in straightening out the warp at the beam warper. In the case of colored work, the pin lease is useful for sorting out colors and arranging patterns, making it easy to count out a uniform number of ends for each color. Pin leases are ordered for each warp to comprise the number of ends best suited to the purpose for which that warp is intended. They are inserted at intervals to suit the convenience or the ideas of the purchaser. They

are frequently put in within a yard or two of each thread lease, at each end of the chain, and sometimes only at one end.

BOUT.

370. For special purposes, warps are ordered with several pin leases gathered together in groups and leased with cords. This kind of a lease is known as a "bout." It is so rarely used that no provision is made for it on the machine. It is made by hand.

MEASURING MOTION.

371. Fig. 60 is a top view of the Denn warper, showing the gearing. It is essential to have a device for measuring

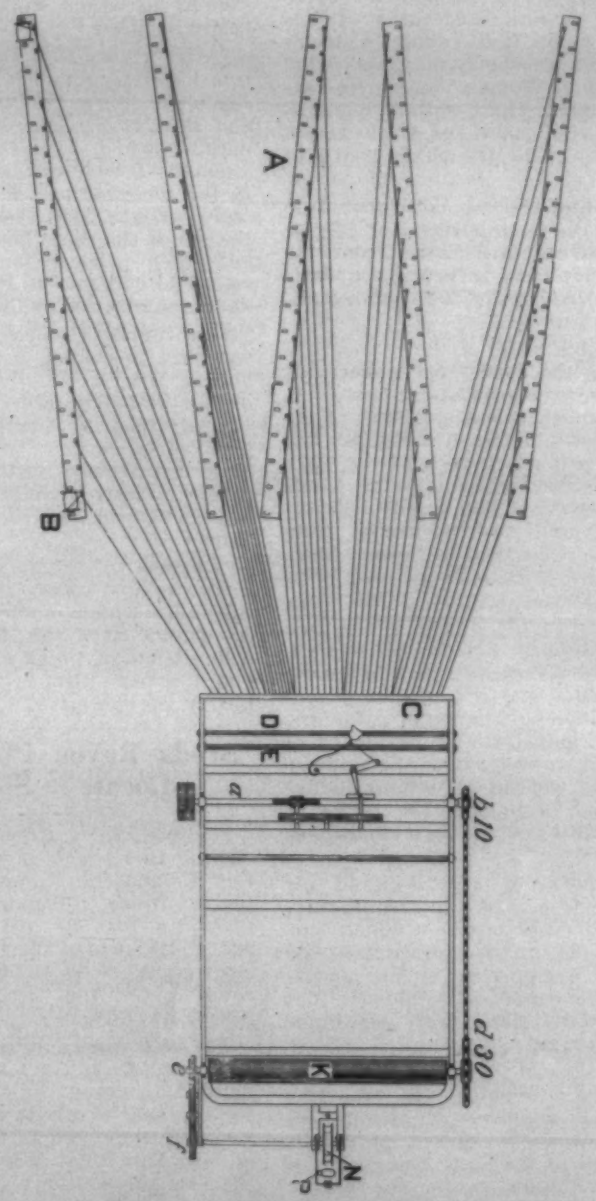

Fig. 60. Denn Warper Gearing.

the warp, in order to show the proper places for cut marks, and also to show the total length.

Cut marks are generally made by tying pieces of string around the warp at stated intervals, according to order.

Fig. 60 shows the measuring roll K, driven from main shaft a by a sprocket chain. It also shows the gearing on main shaft that operates a bell to ring for each cut. The gears may be changed to make the bell ring after any desired number of yards. A stop motion is sometimes also attached to the same gearing, so that machine will stop at the end of warp of any required length.

(Continued next Week)

Index To Advertisers

Where a — appears opposite a name it indicates that the advertisement does not appear in this issue.

To Investigate Women in Industry

Governor McLean, of North Carolina, has signed an order providing for an investigation of condition of women in North Carolina industry. The investigation will be conducted by the Child Welfare Commission and it is expected that the commission will meet soon for formulate plans for the work.

The governor announced his decision to call for the survey after considering for several weeks the request for it which was formally presented by a delegation representing the State Federation of Women's club, the Young Women's Christian association, and the League of Women Voters. He asked the State child welfare commission to undertake the work in cooperation with the State board of health.

The undertaking is expected to cost in the neighborhood of $10,000. The amount will come from the emergency fund, a special appropriation provided by the last legislature.

Although some of the women advocating the survey are understood to have registered opposition to E. F. Carter, executive secretary of the commission, it is expected he will have direct supervision of the work since it has been put in the hands of his agency. The board of health probably will provide nurses from its staff to assist in gathering information.

If the survey follows the ideas suggested by the women at the time they presented their formal request, it will be directed toward obtaining information and statistics on general conditions of employment for women in industry and business. It will seek to determine the number of hours worked in various industries and occupants, the range of pay, health and sanitary conditions, etc.

The governor also declared his purpose to call on the manufacturers and other business which employ women to co-operate with the welfare commission in the undertaking, he expressed confidence that they would lend any assistance necessary.

The decision favorable to the survery was reached by the executive following a series of conferences with Mrs. H. L. McKee, of Sylvia, president of the State Federation of Womens' clubs, while she was a guest at the mansion. At one time, it is understood, the governor had in mind deferring action until the general assembly meets eight months hence and laying the whole matter before it.

When the women's organization first advocated the survey they desired to have it conducted by the women's bureau of the federal department of labor. When the matter was laid before Governor McLean, however, he expressed determined opposition to having an outside agency conduct an investigation within the State, and in his statement he repeated his hostility to the idea of calling upon an outside agency to perform a service which the State itself is qualified to undertake.

Governor's Statement.

The governor's statement follows:

"After careful consideration of the situation from every angle, I have requested the child welfare commission to make the survey of women in industry which has been agitated for some time by the State federation of women's clubs and other women's organizations. The child welfare commission has signified its willingness to undertake the work.

"The survey will cover typical counties and will include all occupations in which women are generally engaged.

"After a very thorough investigation I believe our own State agency can make this survey in a thorough and satisfactory manner. There is nothing which requires any great amount of technical skill involved in the undertaking. I am sure the child welfare commission can with the aid of the State board of health and other such assistance as it may see fit to call for, do the work just as thoroughly as any federal agency.

"As I stated when this matter was first presented to me, I do not believe that it is either necessary or for the best interest of the State to call upon a federal agency to perform a service that our own State can perform just as effectively, particularly when it involves our own industrial and social relationships.

"I expect to call upon the manufacturers and other businesses in the State which employ women to co-operate with the child welfare commission in making the survey, and I believe they will give their hearty co-operation."

Breda Rayon Plant May Locate in South

H. Briel, sales manager for the "Dutch Girl brand rayon, made by the Hollandsche Kunstzijde Industrie, of Breda, Holland, has been in Charlotte for the last week with Jas. T. McAden, of Charlotte, Southern representative of Paulson, Linkroum & Co., Inc., 52 Leonard St., New York City.

The well known firm of Paulson, Linkroum & Co., Inc., has been appointed agents in the United States for the sale of Breda rayon to the weaving trade, and L. C. Linkroum, of New York City, accompanied Mr. Briel on his Southern trip.

While in the South, Mr. Briel was acompanied by Mr. Linkroum and Mr. McAden in calling on various consumers of rayon throughout Virginia, North Carolina and South Carolina, and in addition to this, sites and possibilities were considered for the establishment of an American plant which is under consideration at this time.

The Hollandsche Kunstzijde Industrie is one of the oldest manufacturers of artificial silk in Europe, having their main plant at Breda, Holland, with branch plants in England, France and Spain, and are now contemplating the erection of an American plant, possibly in the South.

Finishing Costs Discussed

(Continued from Page 14)

that 80 per cent of capital tied up in our machinery.

"When we cut down our output, we increased our expenses very rapidly. Let us assume any cloth, a six-color pattern in five-color combination. The probabilities are it will take any eight-color pattern about one and one-half hours to fit to the printing machine, and to get out that five-color combination you will be using six hours in changing your colors and in getting your sample patches through to match the converter's sample. You have probably spent on your strike-off, which is about 6,500 yards, about 7¾ hours. It takes three hours actual running time to get that order through the machines. In other words, we have spent 7¾ hours in preparation, and three hours in the actual printing.

Costs Increases With Smaller Units.

"Take a unit of 25,000 yards, which was a usual order last year, the time of preparation is exactly the same as for the smaller order mentioned. The 25,000 yards can be run through the machines in 12 hours altogether. You can see how our cost jumps by leaps and bounds as we get into the smaller unit of production.

"If the retailers insist upon a policy of buying that necessitates you gentlemen regulating your invoices in small quantities, and we realize your difficulties, the cost that is imposed upon us has got to be taken care of in one or two ways. We have to show sufficient ingenuity to get around that or we have to get higher prices. I am inclined to think that we will have to utilize both methods."

Dyeing Comparisons.

Mr. Thompson gave some figures on colored work. The dyeing of 1,000 yards—sample done in a pan; you must get your solution of color exactly right to match shade and put through other processes, to equal converter's sample. It will probably take you 1¼ hours in the preparation for the dyeing of this 1,000 yards. It will take about 17 minutes to run this through the dyeing machines. In the handling of the 25,000 yards, there is no difference in the amount of time needed for preparation.

It is the stopping time of 80 per cent on the finisher's capital that makes it necessary for him to ask higher prices on the smaller units.

Mr. Thompson gave the following illustration in connection with two of his own plants. Since last October they ran six machines all night in these two plants with the same results in yardage that they got the previous year with no machines running at night, but just running regular hours. "That has imposed a big burden on our plant, for which there has been no compensation.

New DuPont Dye.

To meet the demand for a direct black dyeing half-silk, the Dyestuffs Department of E. I. du Pont de Nemours & Company are now offering to the trade, Pontamine Black HS. On unions of cotton and silk, it gives uniform, full shades and is particularly beautiful when treated with formaldehyde. When after-treated with formaldehyde, it is very fast to washing. It also possesses very good fastness to perspiration. The shade is very bloomy and the cotton and silk are dyed to the same depth and tone. Pontamine Black HS is also entirely satisfactory to crocking.

Cottons Made of 91s To 100s Yarns Form Biggest Import Group

Washington, D. C.—Cloths woven of average yarn numbers counting 91 to 100 have constituted the largest class of cotton goods imports recently, according to figures of the Department of Commerce. As a detailed supplement to the Government's monthly classified report on cloth imports, these statistics giving the yarn counts throw additional light on the character of the fabrics entering the country. Usually however, the yarn counts are not made after the classified monthly lists are issued.

The most recent report giving yarn counts is that of January, 1926. Of 4,069,838 square yards of all types of unbleached cotton goods, not woven figured, imported during that month, 1,132,768 square yards were constructed from numbers 91 to 100 yarns. The next largest group was made of numbers 41 to 50 yarns, comprising 732,563 square yards. Cloths made from 81s to 90s yarns totaled 560,688 square yards; 71s to 880s yarns, 553,623 square yards; 31s to 40s yarns, 483,264 square yards; 21s to 30s yarns, 314,505 square yards.

Among printed, dyed, colored, or woven figured fabrics imported during January, 678,770 square yards were of 21s to 30s yarns.

To what is already known of the history of cotton goods imports during the year 1925, the Deprtment of Commerce adds a chapter expressed in terms of yarn counts. There were 75,526,615 square yards of unbleached cotton goods, not woven figured, shipped into this country last year. Of this total, 23,480,629 square yards were woven with 31s to 40s yarns. Cloths made of 41s to 50s yarns formed the second largest group, totaling 14,052,427 square yards.

Of cloths made of 91s to 100s yarns, there were 9,020,8827 square yards imported during the entire 12 months of 1925. It is interesting to note that during the first month of this year there were imported 1,-132,768 square yards of cloths made from this average count.

Analysis of the above figures would seem to substantiate the recent market knowledge that while the foreign mills have lost nearly all of the large business in the medium quality fabrics that they were receiving from American buyers, they have been able to retain some of the trade in the high-count better quality constructions. This too, however, continues considerably smaller than the yardage of a year ago.

The Story of Cotton

(Continued from Page 8)

And now let us turn to the neighboring country of Arabia. It seems clear that for many ages the sons of Ishmael have derived the greater part of their clothing from the cotton-plant, which grows freely around them. Omar who succeeded the false prophet Mahomet A. D. 634, is described thus: "He went about preaching in a tattered cotton gown, torn in twelve places." And of Ali the next caliph we read: "He went on the day of his inauguration to the mosque, dressed in a thin cotton gown, tied round him with a girdle, and a coarse turban on his head."

It was thought worthy of record in the Chinese annals, that the Emperor Ou-ti (A. D. 502), possessed a robe of cotton, but the plant was not cultivated in China till many years later.

When, early in the eighth century, the Moors conquered Spain, they brought with them the cotton-plant, as well as rice, the sugar-cane, and the mulberry tree. All flourished in the new soil. and the manufacture of home-grown cotton was carried on with great success in the Peninsula for three centuries. The city of Barcelona was particularly famous for cotton sail-cloth, which it used to supply in large quantities to the squadrons stationed off its harbour. Fustaneros was the name given in Spain to cotton goods of a stout strong make. From this we derive our word **fustian.** The Spanish Arabs were the first people who made paper of cotton rags. A curious account is preserved of the way in which cotton was then cultivated, and containing this odd direction—if the plant grows too luxuriantly, beat it about the root with a stick.

No sooner were the Moors driven out of Spain than the culture and manufacture of cotton began to decline. The Spaniards wanted industry and energy for such undertakings. But what they neglected at home, they found in a thriving condition abroad, when they invaded the new world. The inhabitants of Mexico were a patient, ingenious people, who turned all their resources to the best account. The possessed at that time neither sheep's wool or silk, neither flax nor hemp; but they supplied the the place of wool with cotton, and of silk with feathers, and their spinning and weaving were excellent. They wove large webs of cotton, so even in texture, so fine and delicate, that they were much admired when they were brought to Europe. They used to mix with their cotton the finest hair of rabbits and hares, so as to form a very soft and beautiful material, and dyeing their thread of different colours, they were skilful enough to weave figures of animals and flowers. They also made a very strong, stout network which they stretched between two poles and used to sleep in at night. These they called Hamacas, from which our word **hammock** is no doubt derived. In July, 1519, Cortez, a few days after arriving in Mexico, despatched to the Emperor Charles V many rich presents from the newly discovered country. Among these were a variety of cotton mantles with hair and feathers worked up in them. Some were pure white, some chequered with black, red, green, yellow, or blue. Some were rough and shaggy outside, but smooth and white within. The colouring of the cotton was very pure and fine, the feathers were left of their natural hues.

There must have been a great demand in Mexico for articles of wearing apparel, since it was the custom among the natives for each person to wear many robes and mantles at the same time, putting the longest underneath, so that a little bit of each might be seen. Like the Egyptians, the ancient Mexicans embalmed their dead, and wrapped them in a variety of mummy clothes. Some of these, now to be seen in the British Museum, are in part made of cotton..

It is not a little remarkable that, while the inhabitants of the tropical countries in Asia, Africa, and America learnt so early the value of the cotton-plant, and found out how to work up the wooly down of its pods into articles of clothing, the European alone was behind-hand in making use of it. The Portuguese, after the doubled the Cape of Good Hope and found out the way to India by long sea, brought back large quanties of calicoes from Calicut and muslins from Mosul, but they made no attempt to imitate these fabrics in their own country. It was not till the latter end of the sixteenth century, that the Dutch, after engaging in a traffic with the East in cotton goods, began to fabricate them at home from the vegetable fleece they imported.

It is difficult to learn when cotton was first brought to England, for in early times the word cotton came into use in our country as a corruption of "coating," and really meant a kind of woollen stuff: Thus, in an act passed in the reign of Edward VI, A. D. 1552, regarding the manufacture of cloth, there are directions about the weight, length, and breadth of so-called Manchester, Lancaster, and Cheshire cottons, which are clearly woollen goods, not made of any vegetable fabric. And to this day in Cumberland, a certain coarse woollen stuff goes by the name of "Kendal cotton," as it did five hundred years ago where there was no such thing as geniune cotton in the kingdom.

Small quantities however, of the product of the "wool-bearing shrub" did find its way into England in the fourteenth centuries, and was used as we have said for quilting and for candle-wicks. Ships from Genoa, that great merchant city of the middle ages, brought it to our ports together with silk, olive oil, paper, and other wares from the East. But in the year 1511 the cities of London and Bristol fitted out "divers tall ships" with cargoes of wool and calf skins, and sent them to Sicily, Canadia, and Chios, and even to great cities on the coast of Syria, whence they returned laden with silks, camlets, spices, wine, and cotton-wool. Our English merchants from this time carried on with little intermission this Mediterranean com-

merce, and it is constantly mentioned that they brought home cotton, partly in its raw state, partly in the form of fustians and dimities. Calicoes and muslins were imported from India in ever increasing quantities, till in 1821 the tide of commerce turned, and cotton twist, spun in Manchester, was first exported to India. From that date the cotton manufacture of that country was doomed, and it has declined surely and rapidly. The raw material has been brought to England, manufactured and carried back to India. Thus in the year 1834, 4,267,653 pounds of cotton wool were imported from the East Indies and Ceylon, and 40,000,000 yards of cotton cloth were exported to the same countries, as well as a large quantity of cotton twist.

The cheapness of English calicoes tempts the natives to purchase, but it must be confessed that they consider the imported goods very inferior to those made at home, and never use them if they can help it. Last year great pains were taken at Manchester to produce some "sarees," or cotton robes worn by the native women of India. The experiment seemed successful. The "sarees" looked to English eyes perfect in richness ,colour, and texture, and they were decidedly cheaper than anything produced in India. They were exported to the central provinces. A rajah of the neighbourhood saw them, and was pleased with them. He bought one immediately for a lady of his harem, and presented it to her . She was at first delighted with her gift, but on looking at it closely she discovered, from some peculiarity in the arrangement of the thread, that the "saree" was not of native manufacture. In a state of great indignation, she flung the "saree" at the rajah, and reproached him with having picked up cheap rubbish in the market, and dared to offer it to her. So the rajah bought no more sarees from Manchester, and the speculation, which at first promised so well, turned out a failure. With all our advantages we cannot it seems, exactly imitate the Hindoo weavers.

(To be continued)

Handling Rayon Fabrics When Wet

(Continued from Page 12)

bulk of the surplus water may be gotten rid of. By rolling them again in succeeding dry cloths, they will then be dried into a damp, but not wet state. Garments may also be carefully spread out on a cloth covered board and pressed downward against it with soft dry cloths, or towels. They should then dry enough for ironing.

Ironing is best done on the wrong side of the goods, using a warm, not hot, iron. It is better to have a cloth between the iron and the goods, as otherwise the friction of the iron on the rayon would give it a more or less glazed aspect in places, which might not be desirable.

Under no circumstances should the goods be hung up while wet, for the weight of the garments with the water in them will be considerable, and much stretching out of shape will necessarily result, so that hanging on clothes lines, or on pegs, or otherwise, is most prejudicial to them, and the use of clothes pins on them when in the wet condition would be disastrous.

Some of the manufacturers of rayon, in their printed matter, give specific instructions for washing, which are, in effect, very much what has been described above. The soaps used may be either in bar, cake or chipped form, the only difference being that the latter, with its larger surface for a given weight, will form suds more quickly, but, of course, cake and bar soap may also be chipped, or shaved, if desired. Bleaching liquids, so long as they are thoroughly washed out of the goods after using, and well neutralized, should not be injurious. Sometimes laundries which use these preparations will neutralize the remaining traces of the chlorine with weak sour baths of mineral acid, but, if traces of the acid are allowed to remain in the goods, they will be very weakening to their strength, and therefore, any such acid should be thoroughly washed out, and in turn, neutralized with an alkali.

As all textile materials have very well known settled characteristics which are always taken account of in connection with the washing treatments, so it is with rayon, and a reasonable and proper understanding of the properties of this material by those who have to do with the washing of it should guide them as to just what to do, and what not to do, in the treatments given.

Mathieson Alkali Company Announcement

The Mathieson Alkali Works, Inc., of New York City has completed arrangements with the Fields Point Manufacturing Corporation of Providence, R. I., which will afford the latter corporation the general support and extensive resources of the Mathieson Alkali Works, for the benefit and service of the New England customers of both companies.

Effective April 1st, 1926, Daniel Townend, president of the Fields Points Manufacturing Corporation, will have charge of the sales of both companies' products in the New England territory, under the direction of the Mathieson general sales offices, 250 Park Avenue, New York.

New England district sales offices will be maintained as before at 911 Rhode Island Hospital Trust Building, Providence, R. I.

Changes at Matheison Alkali Works

The Mathieson Alkali Works, Inc., announce the appointment of W. A. Field, formerly located in the St. Louis territory, as Chicago district sales manager with offices at 310 South Michigan Avenue, Chicago, Ill. He succeeds J. B. Peake, resigned.

They also announce the appointment of Frederick H. Lovenberg, formerly attached to the New York sales office to take charge of a St. Louis district sales office.

Power of Optimistic Faith

(Continued from Page 7)

ject is a big one, and I could talk about it all night but I won't, for although repetition is an essential of effective advertising I would not weary you.

But there is just one other aspect of your problem to which I am impelled to call your attention, because I hear so much of your geographical remoteness from the cotton fields, I admit it—but what does it amount to?

Suppose your cotton costs you a cent a pound more than you Southern competitors find it necessary to pay for their raw material. It doesn't, but what does a cent a pound for raw material mean in the cost of the goods made from it?

I have been told that upon an average one pound of cotton is converted into five yards of cloth. Therefore the increased cost of your cotton will be fully recovered if you get only one-fifth of a cent more per yard for the goods made. Do you suppose that this slight addition to your selling price would at all restrict the sale of a well made and well advertised brand of goods? I don't, and doubt if you will, if you consider the matter carefully and philosophically.

Proximity of Markets.

And your labor. It is true that your wage scale is higher and that your hours are shorter, but just think for a moment. Within a radius of 600 miles from this hotel—hardly more than a night's journey on a fast train—over one-half the population of the United States is to be found. Just take a map and a pair of compasses and draw a semi-circle whose "hub" is Boston, and whose radius is 600 miles in length. You will find that it includes Washington on the South, Pittsburg on the South-west, Cleveland on the West, and Toronto and Montreal on the North—within its boundaries more than 5,000,000 people reside. They are by far the richest half of our population in respect of their earning power, as well as their accumulated wealth.

Because their wages are the highest paid in this country their standards of living and their purchasing power are correspondingly high, and they are able to buy the goods you make if you will but practice the art of salesmanship and put your wares attractively before them.

I assume that everyone in New England reads the Atlantic Monthly. You ought to, for it is one of the best magazines published in this or any other country.

In the April number there is an article upon the "Dilemma of Thrift," by William T. Foster and Waddill Catchings. It is worth your attention as a cogent demonstration of the fact that high wages work a corresponding increase in the purchasing power of those to whom they are paid, and that business ceases to expand when wages are reduced.

In "Julius Caesar," Shakespeare makes Cassius say: "The fault, dear Brutus, is not our stars but in ourselves that we are underlings." I have been reminded of the quotation many times during the last two or three years, as I have listened to the lamentations of the New England cotton manufacturers over their lost markets and disappearing profits.

I believe that you do yourselves an injustice, my friends, and it is out of a desire to revive the rugged and unconquerable optimism that is yours by inheritance that I have ventured to speak thus frankly to you.

You have the equipment, the capital, the labor and the skill that are essential to success.

Within a night's journey you have half the population of the richest country in the world. Their wants are insatiable,, and they are abundantly able to buy what they fancy.

As a Southern man I have too much faith in and dread of Yankee resourcefulness to believe that you will much longer remain blind to the opportunities that are yours, and it is for this reason that I predict an early return of good times in the great industry that you represent.

Southern Spinners Bulletin

The weekly bulletin of the Southern Yarn Spinners Association says:

"Conditions in the yarn market remain unchanged, purchasing being confined to immediate necessities.

"Recent developments show that spinners are sold ahead on orders at satisfactory prices much farther than had been realized, and at the present rate of operations, are supplied on an average, both business for six to eight weeks.

"Many mills report having made no sales since January, as the prices at which business was offered was below cost. The general attitude of the spinner is to decline business unless it shows a profit, and in the absence of remunerative orders, to institute curtailment.

"Today's prices based on New York spots quotations show that the prices quoted in the Philadelphia market are below cost. Those from the Boston market at about replacement value. It is however, an impossibility to secure cotton of satisfactory quality at New Yorks spots quotations; in consequence the range of yarn prices listed today is below replacement value based on actual cotton costs."

March Cotton Consumption 634,593 Bales

Cotton consumed during March totaled 634,593 bales of lint and 60,532 of linters, compared with 567,244 of lint and 53,978 of linters in February this year and 583,407 of lint and 58,821 of linters on March last year, the census bureau announced.

Cotton on hand March 31 was held as follows:

In consuming establishments 1,767, 686 bales of lint and 187,298 of linters, compared with 1,831,296 of lint and 174,876 of linters on February 28 this year, and 1,633,783 of lint and 158,949 of linters on March 31 last year.

In public storage and at compresses 4,162,628 bales of lint and 84,658 of linters, compared with 4,744,090 of lint and 80,154 of linters on

February 28 this year and 2,028,331 of line and 62,309 of linters on March 31 last year.

Imports for March totaled 45,726 bales, compared with 38,355 in February this year and 33,955 in last year.

Exports for March totaled 45,726 bales, compared with 38,355 in 556,185, including 10,859 of linters, in February this year, and 740,076, including 32,360 of linters, in March last year.

Cotton spindles active during March numbered 33,233,382, compared with 33,028,966 in February this year, and 33,217,162 in March last year.

Statistics for cotton - growing States:

Cotton consumed during March 438,396 bales, compared with 399,406 in February this year, and 392,027 in March last year.

Cotton on hand March 31 was held as follows:

In consuming establishments 1,068,664, compared with 1,127,859 on February 28 last year, and 948,610 on March 31 last year.

In public storage and compresses 3,930,836 bales, compared with 4,536,920 on February 28 this year, and 1,708,836 bales, compared with 4,536,920 on February 28 this year, and 1,708,301 on March 31 last year.

Cotton spindles active during March numbered 17,266,762, compared with 17,221,236 during February this year, and 16,917,166 during March last year.

New Members of Textile Fraternity

R. I. Dalton, Southern agent of the Whitin Machine Works and W. A. Erwin, Jr., of the Erwin Cotton Mills, Durham, N. C., have been elected members of Eta Chapter of the Phi Psi Textile Fraternity at the Textile School of the North Carolina State College.

Three Textile students were also accepted as members. Following initiation, the new members were guests at a banquet given by Eta Chapter.

Speakers at the Banquet were Messrs Dalton, Erwin, A. R. Thompson, Southern representative of Rohm & Haas Co., Grand Vice President of the Phi Psi Fraternity, Dean Thomas Nelson, Professor T. R. Hart and J. N Currie.

The officers elected for next year are: J. F. Matheson, president, Cheraw, S. C.; M. C. Comer, vice-president, Greensboro, N. C.; J. C. Cobb, secretary and treasurer, Lancaster, S. C.

To Discuss Regulation of Production

Open forum discussion regarding the accurate textile statistics in order that mills may adjust production to meet demand will be one of the most interesting topics at the topics at the coming 30th annual conevntion of the American Cotton Manufacturers Association, to be held in Atlanta on May 18 and 19. This discussion will take place on Tuesday afternoon, and leading manufacturers, selling agents and others will participate, to show just what has already been accomplished in the way of affording mills accurate, complete and timely data as to stocks, production, orders, etc.

The official program includes many speakers, who will talk on various problems of immediate and practical concern. Improved merchandising methods, whereby the industry may effect more satisfactory and economical distribution and keep more closely in touch with the requirements of the consumption field, will also be emphasized.

As President Vereen recently expressed it in discussing the association's work, and the plans for this meeting, "the goal toward which we are bending every energy is the stabilization of the cotton textile industry, not 'on our backs' as has been the case largely in the recent past, but 'on ou rfeet' so to speak, paying good wages to our operatives, on a full time employment basis, rendering an economic and real service to the public, providing healthful and attractive working and living conditions for our people and earning a reasonable net profit for our stockholders. It is to be hoped that from this meeting practical and constructive suggestions will follow with this in view."

It is expected that there will be present some 500 to 600 of the South's leading cotton manufacturers.

The annual dinner on Tuesday evening will be of outstanding interest. The citizens of Atlanta are planning a royal welcome to the guests of the convention and the entertainment features promise to be altogether noteworthy and attractive. The Atlanta-Biltmore hotel will be the convention headquarters.

That the textile manufacturing industry is vitally concerned in the well-being and prosperity of agriculture—not merely the growing of cotton, but agriculture as a whole—and will welcome and heartily support any constructive measures that give promise of real relief, will be also emphasized at the convention.

While the keynote of the convention will be the stabilization of the textile industry, various factors affecting such a realization will be considered, including better methods of distribution, trade statistics, research, etc. The connection between agriculture and textile manufacturing is to be found in the fact that approximately 50 per cent of the production of Southern mills is ultimately consumed by farmers and thei rdependents and one of the contributing causes for the sad plight the textile industry is in, is the reduced purchasing power of the farmers of the country. It is understood that President Vereen will point out this fact, with some interesting data, followed by constructive suggestions which will be further developed by former Secretary of Agriculture, E. T. Meredith of Des Moines, Iowa. Ex-secretary Meredith will stress the relationship and interdependence of agriculture and industry, with particularlar application to textiles.

Dr. G. W. Dyer, of Vanderbilt University, will speak on the mission of industry and the part it plays in national life.

Cotton Goods

New York.—The demand for cotton goods continued light during the week, with a steady drop in production. There were some sales of sheetings to the bag trade for delivery in May, June and July and further future business in pajama checks. A good deal of business in print cloths for delivery in the third quarter of the year was refused by the mills on account of the low prices offered.

The trade here was very much interested in the conference held Friday in Spartanbug between members of the South Carolina Cotton Manufacturers Association and a number of prominent commission men of New York. The purpose of the meeting was to discuss the regulation of production and the markets were hopeful that some definite plan might be worked out toward this end.

Printers continued active during the week. Bleachers were busy delivering goods on old orders and lower prices continued to mark trading. Wash goods business was lighter than normal. Heavy cotton goods were somewhat lower and the demand was light. Deliveries on duck and tire fabrics on old orders continued large.

There were efforts to buy spots of 64x60s at 7⅝ cents. One bid was reported for about 10,000 pieces at that price, but up to the close it was not indicated that the goods had been obtained. The majority of centers were asking three-quarters and some small sales were reported at that price. May and June were available at five-eighths. For spots of 68x72s, 8¾ continued to be the quotation, with some centers still asking seven-eighths for small lots. Late contracts were reported at five-eighths. Some spots 72x76 were reported sold at 9⅞ cents and nearby and next month quoted at three-quarters. Spots of 80 squares sold in first hands at 11¼ cents; May delivery was being offered at even money. The situation in 60x48s was nominally unchanged at 6⅝ cents, with not much interest apparent.

Interest in sheetings lessened and only small lots were taken. The market in 37-inch 4-yard declined 8⅝ cents to 8¾ cents. Contract 31-inch 5-yard were available at 7 cents with spots sold at 7⅛ cents. The 36-inch 5.50 yard were held at 7⅛ cents. The 36-inch 5.50-yard were held between 6⅝ and 6¾ cents. Spot 2.50-yard sold at 13½ cents and April 2.85-yard at 12 cents. The market on 56x60s 4-yard held at 9¾ cents spot and 9½ cents contract; 3.60-yard spots were 10⅞ cents and contract 10¾ cents; 40-inch 4.25-yard was quoted 8½ cents.

Fine goods reports were not especially favorable, the business for gray goods coming along slowly and not many contracts placed. The demand has not shown up in large enough volume to tempt mills to shade prices which accounts for the asking levels being largely nominal. Of several styles the market holds up strong, concessions being difficult to arrange. Buyers have an opportunity of placing contracts on specialty goods at attractive prices since the mills need the business.

Buyers continued to hold off placing cotton duck contracts. This is not surprising to mills which continue to produce against large commitments placed in the past. A steady demand for small spot lots is quoted while various buyers have lately become interested, offering bids under mill ideas.

Another quiet week was reported in the Fall River print cloth market, with the total volume of sales reported at 60,000 pieces, which includes listed and unlisted styles. Trading has been confined almost entirely to nearby deliveries, with buyers apparently supplying only their immediate needs. Mills have generally resisted corts to buy under the market, with 36-inch constructions the only interesting spot in the market.

It is reported that a few contracts were placed to run through next month, but in the aggregate buyers were not interested in future goods and evinced but slight interest in quick goods. Interest has been lagging throughout the remainder of the list and but for the 36-inch business the weekly report would have been much smaller.

Sateens were reported somewhat quiet with wide and narrow plain goods absolutely in the doldrums. Inquiries for these numbers were for small quantities only with mostly a matter of expense rather than profit for those handling them. Prices continue to be quite irregular.

Cotton goods prices were quoted as follows:

Print cloths, 28-in., 64x64s	5⅞
Print cloths, 28-in., 64x60s	5⅝
Print cloths, 28-in., 64x60s	5⅜
Gray g'ds. 38½-in., 64x64s	8¼
Gray goods, 39-in., 68x82s	8¾
Gray goods, 39-in., 80x80s	11½
Brown sheetings, 3-yard	12½
Brown sheetings, 4-yard	10¾
Brown sheetings, stand.	13½
Ticking, 8-oz.	22
Denims	17½
Staple ginghams, 27-in.	9
Kid finished cambrics	8½ a9½

The Yarn Market

Philadelphia, Pa.—There was very little change in the yarn market during the week. Business continued listless and the sales showed that trading is still mainly of the hand to mouth character, with practically no business in future contracts. Prices on carded yarns showed a further slight drop and buyers continued to try to get spot lost at concessions. Mill prices were generally firm at prices above those quoted in this market.

Production showed some reduction during the week. More mills are reported as having dropped night work and some of them have gone on part time. There has been no general movement among carded yarns to curtail materially, but reports show that very drastic curtailment will probably develop soon unless there is a very prompt improvement in market conditions.

There were a few inquiries for yarns for future delivery, but prices were so low that mill would not accept buyers offers. The combed yarn situation continued dull, mills reporting a very light demand at unsatisfactory prices. Gaston county mills continued to curtail production.

Buyers here are apparently convinced that lower prices will come later and are therefore taking only enough yarn to fill their most immediate requirements. On the other hand, spinners state that prices are already too low to allow a profit and the deadlock thus resulting has brought trading practically to a standstill.

Prices in this market were quoted as follows:

Southern Two-Ply Chain Warps.

8s	32	a...
10s	33	a...
12s	33½	a...
16s	34	a35
20s	35½	a36
24s	38	a...
26s	39	a40
30s	44½	a43
40s	52	a53
40s ex.	58	a60
50s	67	a68

Southern Two-Ply Skeins.

8s	32	a...
10s	32½	a...
12s	33	a...
14s	33½	a...
16s	34	a35
20s	35	a35½
24s	38	a...
26s	39	a...
30s	41	a42
36s	50	a...
40s	51	a52
40s ex.	58	a60
50s	66	a67
60s	77	a...
Tinged Carpet ....3 and 4-ply	26½	a27
White Carpet ....3 and 4-ply	31	a32

Part Insulated Waste Yarns.

6s, 1-ply	26	a...
8s 2, 3, and 4-ply	26½	a...
10s, 1-ply and 3-ply	28	a...
12s, 2-ply	29	a...
16s, 2-ply	32	a...
20s, 2-ply	33	a...
26s, 2-ply	37½	a38
30s, 2-ply	39	a40

Duck Yarns—3, 4 and 5-Ply.

8s	32	a...
10s	33	a...
12s	33	a...
16s	34½	a35
20s	36	a...

Southern Single Chain Warps

10s	32	a...
12s	33	a...
14s	33½	a...
16s	34½	a35
20s	35	a36
24s	38	a...
26s	39	a...
30s	42	a43
40s	53	a...

Southern Single Skeins.

6s	31	a...
8s	31½	a...
10s	32	a...
12s	32½	a...
14s	33	a...
16s	34	a...
20s	35	a...
22s	36	a...
24s	38	a...
26s	39	a...
30s	42	a...

Southern Frame Cones

8s	31½	a...
10s	32	a...
12s	32½	a...
14s	33	a...
16s	33¼	a...
18s	34	a...
20s	34½	a...
22s	35	a...
24s	36	a36½
26s	37	a37½
28s	39½	a...
30s*	38	a38½
30s	39½	a40
40s	48½	a...

Southern Combed Peeler Skeins, Etc.—Two-Ply.

16s	51	a...
20s	53	a...
30s	58	a...
36s	63	a...
40s	65	a67
50s	72	a67
60s	78	a80
70s	88	a90
80s	1 05	a1 10

Southern Combed Peeler Cones.

10s	42	a...
12s	43	a...
14s	44	a...
16s	45	a...
18s	46	a...
20s	47	a...
22s	48	a49
24s	51	a...
26s	51½	a...
28s	52	a...
30s	55	a...
32s	57	a...
34s	59	a60
36s	62	a...
38s	63	a...
40s	64	a...
50s	70	a72
60s	78	a80
70s	88	a90
80s	1 05	a...

Eastern Carded Peeler Thread—Twist Skeins—Two-Ply.

20s	48	a...
22s	49	a...
24s	50	a...
30s	54	a...
36s	57	a...
40s	61	a...
45s	68	a...
50s	73	a...

Eastern Carded Cones.

10s	37	a...
12s	38	a...
14s	39	a...
20s	40	a...
22s	43	a...
26s	47	a...
28s	49	a...
30s	51	a...

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1—40" Kitson Two Beater Breaker Lapper with Automatic Feeder. Excellent condition.
1—40" Kitson Single Beater Finisher Lapper with Kirschner Beater. Excellent condition.

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1 40" Kitson 2-beater breaker picker with feeder.
1 40" Kitson finisher picker.
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1 Saco-Lowell Lap Winder.
7 40" Saco-Pettee finisher cards, 27" doffers, 4-coiler heads, tandem lap backs.
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As superintendent of small mill or assistant superintendent of large mill. Experience extends over a number of years and can furnish best of references as to character and ability. If you have opening or are considering a change let me talk with you. Address W. O. E., care Bulletin.

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WANT position as superintendent of yarn mill. Am now overseer of cardind and have had long and practical experience. Good references. No. 4820.

WANT position as overseer carding or spinning, prefer spinning. Practical carder and spinner who can get results. Excellent references. No. 4821.

WANT position as superintendent of small mill or overseer weaving in large mill, or assistant superintendent. Experxienced on wide variety of weaves, can get production at right cost. References. No. 4822.

WANT position as superintendent, would take large weave room. Age 48, long service as both superintendent and overseer. Now employed and can give good references. No. 4823.

WANT position as overseer carding. Age 32, single, good habits. I. C. S. graduate in carding and spinning. Would like job in Texas. Now employed. Best of references. No. 4824

WANT position as superintendent of weave mill, or would consider large weave room job Have been on present job as overseer weaving for 7 years. Good references. No. 4825.

WANT position as overseer carding. Long experience as second hand and overseer. Now employed as overseer and giving satisfaction, but want larger place. References. No. 4826.

WANT position in mill office as paymaster, shipping clerk or timekeeper. Beginner in accountancy. Seven years experience. Age 26, married, now employed. No. 4827.

WANT position as overseer weaving on jacquard, plain work or drills. Have had 6 years experience on plain goods and drills, 10 years on jacquard damask and fancy rayon draperies. Now employed. Best of references. No. 4828.

WANT position as superintendent or manager. Practical man who has been superintendent for long period of years and can give satisfactory references to show excellent past record. No. 4829.

WANT position as overseer weaving, plain or fancy work. Fifteen years experience as overseer and can give excellent references. No. 4830.

WANT position as overseer carding. Now employed. Have had ten years experience as carder. Good references. No. 4831.

WANT position as second hand or overseer carding. Age 34, 20 years in card room. Have taken course in textile and have excellent references. No. 4832.

WANT position as overseer carding or spinning. Long experience in both rooms and can give satisfactory results. Can furnish references to show character and ability. No. 4833.

WANT position as overseer spinning, spooling and warping. I. C. S. graduate, 12 years experience. Age 39. Now employed but can change on short notice. No. 4835.

WANT position as overseer carding. Now employed as carder but wish larger place. Can handle carding or spinning or both. Have been in mill almost all my life. Twelve years as overseer. Also had long experience as overhauler. Good references. No. 4836.

WANT position as overseer cloth room. Now employed as night overseer in napping and finishing room; 12 years experience, including work on sheetings, print cloths, folding and winding. Understand upkeep of napper machines. Want day job. No. 4837.

WANT position as superintendent of yarn mill. Am practical spinner and familiar with all counts and cotton. Now employed as superintendent and giving satisfaction. Would take spinners' place in large mill. Good references. No. 4838.

WANT position as shipping or supply clerk, timekeeper or general office man. Experienced in this work and also familiar with weave room, cloth room and machine shop. Have worked in both white and colored weave mills and in yarn mills. Good references. No. 4840.

WANT position as superintendent. Am textile graduate of N. C. State College and have been superintendent of a good mill for the past 6 years. Best of references. No. 4841.

WANT position as superintendent or assistant superintendent, or overseer fancy weaving. Long experience, can get results and can keep down costs and seconds. No. 4842.

WANT position as assistant superintendent, overseer weaving or designer. Thoroughly familiar with fine and fancy weaving and can give references to show caracter and ability. No. 4843.

WANT position as superintendent. Now employed as superintendent, but wish larger place. My experience includes long service as superintendent and overseer. Best of references. No. 4844.

WANT position as superintendent of weave mill on plain or fancy work or would take large weave room. My experience covers wide variety of weaves and I can produce excellent results at the right price. No. 4845.

WANT position as overseer small card room or second hand in larger room. Have had 27 years experience in card room; 9 years as section man, and second hand. On present job as second hand for 2 years. Age 45, married, sober. Good references. No. 4846.

WANT position as superintendent, or overseer carding and spinning. Practical man of long experience who thoroughly understands carding and spinning. Best of references. No. 4848.

WANT position as superintendent of yarn mill, or would take carding or spinning in large mill. Good carder and spinner, can manage help and can produce quality work at low cost. No. 4849.

WANT position as overseer of carding or spinning or superintendent of small yarn mill. Qualified by experience and training to handle work in competent manner. Good references. No. 4850.

WANT position as overseer weaving. Prefer Draper or Stafford looms. Have had several years experience as erecting man. Stafford Company. Familiar with dobby work. Experience covers wide range of goods. Best of references. No. 4851.

WANT position as overseer of cloth room. Experienced man who understands cloth room work and who has had long experience in a number of good mills. Excellent references. No. 4852.

WANT position as overseer carding. Age 28, 8 years experience in card room on colored work and some on hosiery I. C. S. student. Prefer North Carolina or Virginia. Good references. No. 4853.

WANT position as overseer carding in large mill. Now employed but have good reasons for changing. Age 36, married, of good habits. Good references. No. 4854.

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Link-Belt Co.
Morse Chain Co.
Chemicals—
L. Sonneborn Sons, Inc.
J. B. Ford Co.
Hart Products Corp.
A. Klipstein & Co.
Mathieson Alkali Works, Inc.
National Oil Products Co.
Seydel Chemical Co.
Seydel-Woolley Co.
Cloth Presses—
Economy Baler Co.
Cloth-Winding Paper Cores—
Cores for Cloth-Winding—
Clutches (Friction)—
Charles Bond Company
Textile Finishing Machinery Co.
Wood's T. B. Sons Co.
Cloth Winders and Doublers—
Curtis & Marble Machine Co.
Clutch Spindles—
Fournier & Lemoine.
Coal Handling Machinery—
Link-Belt Co.
Combs—
Steel Heddle Mfg. Co.
Combs (Beamers, Warpers, Slashers)—
T. C. Entwistle Co.
Easton & Burnham Machine Co.
Commission Merchants—
Catlin & Co.
J. H. Lane & Co.
Mauney-Steel Co.
Paulson, Linkroum & Co.
Ridley, Watts & Co.
The Farish Co.
Compressors (Air)—
Allis-Chalmers Mfg. Co.

Condensers—
Allis-Chalmers Mfg. Co.
Conditioning Machines—
American Moistening Co.
Conduit Fittings—
Chicago Fuse Mfg. Co.
Cones (Paper)—
Sonoco Products Co.
Cone Vice Couplings—
William Sellers & Co., Inc.
Conveying Systems—
Link-Belt Co.
Coolers (Air)—
——See Humidifying Apparatus.
Cotton—
Lesser-Goldman Cotton Co.
Sanders, Orr & Co.
Stewart Bros. Cotton Co.
S. B. Tanner, Jr.
Wm. & York Wilson.
Cotton Machinery—
Ashworth Bros.
Barber-Colman Co.
Collins Bros. Machine Co.
Crompton & Knowles Loom Works.
Dixon Lubricating Saddle Co.
Draper Corporation.
Easton & Burnham Machine Co.
T. C. Entwistle Co.
Fales & Jenks Machine Co.
H. & B. American Machine, Inc.
Hopedale Mfg. Co.
Rodney Hunt Machine Co.
National Ring Traveler Co.
Roy & Son, B. S.
Saco-Lowell Shops.
Southern Spindle & Flyer Co.
Stafford Co., The
Terrell Machine Co.
Tolhurst Machine Works.
Universal Winding Co.
Whitin Machine Works.
Whitinsville Spinning Ring Co.
Woonsocket Machine & Press Co., Inc.
Cotton Openers and Lappers—
Saco-Lowell Shops.
Whitin Machine Works.
Woonsocket Machine & Press Co., Inc.
Cotton Softeners—
Arabol Mfg. Co.
Arnold, Hoffman & Co., Inc.
Bosson & Lane.
Hart Products Corp.
E. F. Houghton & Co.
A. Klipstein & Co.
National Oil Products Co.
Seydel Chemical Co.
Seydel-Woolley Co.
L. Sonneborn Sons, Inc.
Wolf, Jacques & Co.
Cotton Waste Machinery—
Woonsocket Machine & Press Co., Inc.
Saco-Lowell Shops.
Whitin Machine Works.
Counters (Revolution, Hank, Pick, etc)—
The Root Co.
Couplings (Shaft)—
Charles Bond Company
William Sellers & Co., Inc.
Wood's T. B. Sons Co.
Cranes—
Link-Belt Co.
Dobby Chain—
Crompton & Knowles Loom Works.
Rice Dobby Chain Co.
Doffing Boxes—
Rogers Fibre Co.
Doublers—
Saco-Lowell Shops.
Textile Finishing Machinery Co.
Universal Winding Co.
Drawing Rolls—
Metallic Drawing Roll Co.
Drink Fountains—
Puro Sanitary Drinking Fountain Co.
Drives (Silent Chain)—
Charles Bond Company
Link-Belt Co.
Morse Chain Co.
Drop Wires—
Crompton & Knowles Loom Works.
Draper Corporation.
Hopedale Mfg. Co.
Mossberg Pressed Steel Corp.
R. I. Warp Stop Equipment Co.
Dryers (Centrifugal)—
Roy & Son Co., B. S.
Tolhurst Machine Works.
Dyers—
Southern Artsilk Bleach & Dye Works, Inc.
Dyeing, Drying, Bleaching and Finishing Machinery—
Cocker Machinery & Foundry Co.
American Laundry Machinery Co.
H. W. Butterworth & Sons Co.
Franklin Process Co.
Klauder-Weldon Dye Machinery Co.
Perkins, B. F. & Sons, Inc.
Rodney Hunt Machine Co.
Textile Finishing Machinery Co.
Dyestuffs and Chemicals—
Borne, Scrymser Co.
Bosson & Lane.
E. I. du Pont de Nemours & Co., Inc.
General Dyestuff Corp.
A. Klipstein & Co.
National Oil Products Co., Inc.
Newport Chemical Works
National Aniline & Chemical Co.
United Chemical Products Co.
Wolf, Jacques & Co.
Dye Works—
Franklin Process Co.
Sayles Finishing Plants, Inc.
Electric Fans—
Allis-Chalmers Mfg Co.
General Electric Co.
Westinghouse Electric & Mfg. Co.
Electric Hoists—
Allis-Chalmers Mfg. Co.
Link-Belt Co.
Electric Lighting—
Allis-Chalmers Mfg. Co.
General Electric Co.
Westinghouse Electric & Mfg. Co
Electric Motors—
Allis-Chalmers Mfg. Co.
Charles Bond Company
Fairbanks-Morse Co.
General Electric Co.
Westinghouse Electric & Mfg. Co.
Electric Supplies—
Chicago Fuse Mfg. Co
Cooper-Hewitt Electric Co
General Electric Co
Westinghouse Electric & Mfg. Co.
Elevators—
Link-Belt Co.
Engineers (Mill)—
——See Architects and Mill Engineers
Engineers (Ventilating)—
Bahnson Co.
Parks-Cramer Co.
Engines (Steam, Oil, Gas, Pumping)—
Allis-Chalmers Mfg. Co.
Fairbanks, Morse & Co.
Sydnor Pump & Well Co.
——See also Ventilating Apparatus.
Expert Textile Mechanic—
J. D. Hollingsworth.
Extractors—
American Laundry Machine Co.
Tolhurst Machine Works.
Fences (Iron and Wire)—
Page Fence and Wire Products Assn
Wickwire Spencer Steel Co.
Fibre Specialties—
Rogers Fibre Co.
Finishers—
Sayles Finishing Plants, Inc.
Finishing Compounds—
Arnold, Hoffman & Co., Inc.
Borne, Scrymser o.
Hart Products Corp.
E. F. Houghton & Co.
A. Klipstein & Co.
National Oil Products Co.
Seydel-Woolley Co.
L. Sonneborn Sons Co.
Finishing Machinery—
H. W. Butterworth & Sons Co.
B. F. Perkins & Son, Inc.
Finishing Machinery—
——See Dyeing, Drying, Bleaching and Finishing.
Flat Wall Paint—
E. I. du Pont de Nemours & Co., Inc.
U. S. Gutta Percha Paint Co.
Flexible Couplings—
T. B. Wood's Sons Co.
Floor Stands—
Wood's T. B. Sons Co.
Fluted Rolls—
Collins Bros. Machine Co.
Fales & Jenks Machine Co.
Woonsocket Machine & Press Co., Inc.
Whitin Machine Works.
Flyer Pressers and Overhaulers—
Southern Spindle & Flyer Co.
Whitin Machine Works.
Woonsocket Machine & Press Co., Inc
Flyers—
Saco-Lowell Shops.
Southern Spindle & Flyer Co.
Whitin Machine Works.
Frames—
Steel Heddle Mfg. Co.
Friction Clutches—
Wood's T. B. Sons Co.
See Clutches.
Fuses —
Chicago Fuse Mfg. Co.
Garnett Roll Grinders—
B. S. Roy & Son Co.
Gearing (Silent Flexible)—
Link-Belt Co.
Gears—
Charles Bond Company
Dan Gear Co.
Ferguson Gear Co.
Gears-Silent—
Charles Bond Company
Ferguson Gear Co.
Gear Makers—
Charles Bond Company
Ferguson Gear Co.
Generating Sets—
Fairbanks, Morse & Co.
Grate Bars—
Thomas Grate Bar Co.
Grab Buckets—
Link-Belt Co.

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N. Y. & N. J. Lubricant Co.
L. Sonneborn Sons, Inc.
Grinding and Polishing Machines—
Gudgeon Rolls—
Washburn.
Easton & Burnham Machine Co.
Roy, B. S. & Son Co.
Hangers (Ball and Socket)—
Charles Bond Company
William Sellers & Co., Inc.
T. B. Wood's Sons Co.
Hangers (Shaft)—
Charles Bond Company
Hyatt Roller Bearing Co.
William Sellers & Co., Inc.
Wood's T. B. & Sons Co.
Hardware Supplies—
Textile Mill Supply Co.
Harness Twine—
Garland Mfg. Co.
Harness and Frames—
——See Heddles and Frames.
Heddles and Frames—
Garland Mfg. Co.
Steel Heddle Mfg. Co.
L. S. Watson Mfg. Co.
Hopper-Feed Hand Stokers—
The J. H. Williams Co.
Hosiery Dyeing Machinery—
Cocker Machinery & Foundry Co
Humidifying—
R. I. Humidifier and Ventilating Co.
Humidity Control—
R. I. Humidifier and Ventilating Co.
Humidity and Air Conditioning Aparatus—
American Moistening Co.
The Bahnson Co.
Carrier Engineering Co.
Parks-Cramer Co.
Humidity Controller—
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The Bahnson Co.
Carrier Engineering Corp.
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Tolhurst Machine Co.
Indigo Deing Machinery—
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Textile Finishing Machinery Co.
Insurance—
Liberty Mutual Insurance Co.
Knit Goods Finishing Machines—
Kaumagraph Co.
Merrow Machine Co., The.
Knotters—
Barber-Colman Co.
Merrow Machine Co.
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National Oil Products Co.
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E. S. Draper.
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Graton & Knight Mfg. Co.
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Leather Strapping—
Charles Bond Company
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Graton & Knight Mfg. Co.
E. F. Houghton & Co.
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Mathieson Alkali Works, Inc.
Looms—
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Draper Corporation.
Hopedale Mfg. Co.
Stafford Co., The.
Loom Beams and Heads—
Frank Mossberg Corp.
Mossberg Pressed Steel Corp.
Loom Drop Wires—
Crompton & Knowles Loom Works
Hopedale Mfg. Co.
Mossberg Pressed Steel Corp.
Steel Heddle Mfg. Co.
R. I. Warp Stop Equipment Co.
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Garland Mfg. Co.
Graton & Knight Mfg. Co.
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Greensboro Loom Reed Co.
High Point Loom Reed & Harness Co.
Steel Heddle Mfg. Co.
Loom Supplies—
Charles Bond Company
E. H. Jacobs Mfg. Co.
Lubricants—
Borne, Scrymser & Co.
E. F. Houghton & Co.
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L. Sonneborn Sons, Inc.
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Malcolm H. Smith Co., Inc.
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Mangles—
H. W. Butterworth & Sons Co.
Textile Finishing Machinery Co.
Markers—
Kaumagraph Co.
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Measuring and Folding Machines—
Curtis & Marble Machine Co.
Textile Finishing Machinery Co.
Mercerizing Machinery—
Cocker Machinery & Foundry Co.
H. W. Butterworth & Sons Co.
Textile Finishing Machinery Co.
Metal Paint—
E. I. du Pont de Nemours & Co., Inc.
Meters—
Allis-Chalmers Mfg. Co.
General Electric Co.
Westinghouse Electric & Mfg. Co.
Mill Architects—
——See Architects.
Mill Lighting—
——See Electric Lighting.
Mill Starches—
Arnold, Hoffman & Co., Inc.
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Corn Products Refining Co.
Penick & Ford, Ltd.
Keever Starch Co.
Stein, Hall & Co.
Mill Supplies—
Charles Bond Company
Dixon Lubricating Saddle Co.
E. H. Jacobs Mfg. Co.
Garland Mfg. Co.
Textile Mill Supply Co.
Thomas Grate Bar Co.
Mill White—
E. I. du Pont de Nemours & Co., Inc.
Monosulphol Oil—
National Oil Products Co.
Napper Clothing—
Wickwire Spencer Steel Co.
Napper Roll Grinders—
B. S. Roy & Son Co.
Allis-Chalmers Mfg. Co.
General Electric Co.
Westinghouse Electric & Mfg. Co.
Oils—
Arnold, Hoffman & Co., Inc.
E. F. Houghton & Co.
A. Klipstein & Co.
National Oil Products Co.
N. Y. & N. J. Lubricant Co.
L. Sonneborn Sons, Inc.
Wolf, Jacques & Co.
Oil Burners—
Scott-Newman Oil Burner Co.
Oils (Hyroscopic)—
National Oil Products Co.
Oils (Rayon)—
National Oil Products Co.
One-Piece Furnace Linings—
Carolina Refractories Co.
Opening Machinery—
H. & B. American Machine Co.
Saco-Lowell Shops.
Whitin Machine Works.
Overhauiers—
Saco-Lowell Sohps .
Overseaming and Overedging Machines—
Southern Spindle & Flyer Co.
Paints—
Aluminum Co. of America.
Oliver Johnson & Co.
Tripod Paint Co.
U. S. Gutta Percha Paint Co.
Patents—
Paul B. Eaton
Siggers & Siggers.
Perforated Machinery Guards—
Wickwire Spencer Steel Co.
Perforated Metals—
Wickwire Spencer Steel Co.
Picker Gears—
Cocker Machinery & Foundry Co
Pickers (Leather)—
Charles Bond Company
Edward R. Ladew Co.
E. F. Houghton & Co.
E. H. Jacobs Mfg. Co.
Garland Mfg. Co.
Graton & Knight Mfg. Co.
Picker Sticks—
Charles Bond Company
Garland Mfg. Co.
Piece Dyeing Machinery—
H. W. Butterworth & Sons Co.
Cocker Machinery & Foundry Co
Rodney Hunt Machine Co.
Textile Finishing Machinery Co.
Pipe and Fittings—
Parks-Cramer Co.
Portable Elevators—
Link-Belt Co.
Power Transmission Machinery—
Allis-Chalmers Mfg. Co.
Charles Bond Company
Hyatt Roller Bearing Co.
Fafnir Bearing Co.
Link-Belt Co.
Morse Chain Co.
William Sellers & Co., Inc.
Wood's, T. B. Sons Co.
Preparatory Machinery (Cotton)—
H. & B. American Machine Co.
Saco-Lowell Shops.
Whitin Machine Works.
Woonsocket Machine & Press Co., Inc.
Pickers and Lappers—
Whitin Machine Works.
Woonsocket Machine & Press Co., Inc.
Pinboards—
Rodney Hunt Machine Co.
Washburn.
Porcelain Guides and Parts—
Rodney Hunt Machine Co.
Page-Madden Co., Inc.
Presses—
Economy Baler Co.
Rex Engineering Co.
Saco-Lowell Shops.
Pulleys (Cast Iron)—
Charles Bond Company
William Sellers & Co., Inc.
Wood's, T. B. Sons Co.
Pumps—
Blackmer Rotary Pump Co.
Pumps (Boiler Feed; also Centrifugal)—
Allis-Chalmers Mfg. Co.
Fairbanks, Morse & Co.
Sydnor Pump & Well Co.
Presses—
Collins Bros.
Quill Boards—
Washburn.
Quillers—
Crompton & Knowles Loom Works.
Universal Winding Co.
Whitin Machine Works.
Quill Cleaners—
Terrell Machine Co.
Receptacles—
Economy Baler Co.
Rogers Fibre Co.
Reels—
Cocker Machinery & Foundry Co.
H. W. Butterworth & Sons Co.
Rodney Hunt Machine Co.
Frank Mossberg Corp.
Rings—
Whitinsville Spinning Ring Co.
Ring Spinning Frames—
Fales & Jenks Machine Co.
H. & B. American Machine Co.
Textile Finishing Machinery Co.
Whitin Machine Works.
Saco-Lowell Shops.
Ring Travelers—
Dary Ring Traveler Co.
National Ring Traveler Co.
Victor Ring Traveler Co.
U. S. Ring Traveler Co.
Rolls—
H. W. Butterworth & Sons Co.
Collins Bros. Machine Co.
Fales & Jenks Machine Co.
Rodney Hunt Machine Co.
The Whitin Machine Works.
Woonsocket Machine & Press Co., Inc.
Saco-Lowell Shops.
Southern Spindle & Flyer Co.
Textile Finishing Machinery Co.
Rolls (Metal)—
Rodney Hunt Machine Co.
Rolls (Rubber)—
Rodney Hunt Machine Co.
Rolls (Wood)—
Rodney Hunt Machine Co.
Washburn.
Roller Bearings—
Charles Bond Company
Fafnir Bearing Co.
Hyatt Roller Bearing Co.
Roving Cans and Boxes—
Denison Mfg. Co.
Rogers Fibre Co.
Roving Machinery—
Whitin Machine Works.
Woonsocket Machine & Press Co., Inc
Saco-Lowell Shops.
Saddles—
Dixon Lubricating Saddle Co.
Sanitary Equipment—
Vogel Co., Joseph A.
Sanitary Fountains—
——See Drinking Fountains
Scales—
Fairbanks, Morse & Co.
Scallop Machines—
Merrow Machine Co.
Scouring Powders—
Bosson & Lane
Ford, J. B. Co.
National Oil Products Co.
Scrubbing and Cleaning Powders—
The Denison Mfg. Co.
Sesquicarbonate of Soda—
Mathieson Alkali Works, Inc.
Section Beam Heads—
Frank Mossberg Corp.
Mossberg Pressed Steel Corp
Selling Agents—
Woodward, Baldwin & Co.
Deering, Milliken & Co.
Reeves Bros.
Selling Agents (Cotton Goods)—
Amory, Browne & Co.
Curran & Barry.
Deering, Milliken & Co.
W. H. Langley & Co.
Leslie, Evans & Co.
Reeves Bros.
Wellington, Sears & Co.
Sewing Machines—
Merrow Machine Co.
Sewing Machines and Supplies—
Curtis & Marble Machine Co.
Shafting, Hangers, Etc.
——See Power Transmission Machinery
Shafting—
Fafnir Bearing Co.
William Sellers & Co., Inc.
Wood's T. B. Sons Co.
Shear Grinders—
B. S. Roy & Son Co.
Shell Rolls—
Washburn.
Shell Stitch Machines—
Merrow Machine Co.
Short Center Drives—
T. B. Wood's Sons Co.
Shuttles—
Jas. H. Billington Co.
David Brown Co.
Lowell Shuttle Co.
Draper Corporation.
Hopedale Mfg. Co.
Shambow Shuttle Co.
L. S. Watson Mfg. Co.
The J. H. Williams Co.
U. S. Bobbin & Shuttle Co.
Silk Yarns (Artificial)—
American Cellulose & Chemical Mfg. Co.
Duplan Silk Corp.
Imperial Rayon Co.
Industrial Fibre Co.
Silent Chain Drive—
Link-Belt Co.
Morse Chain Co.
Singeing Machinery—
H. W. Butterworth & Sons Co.
Textile Finishing Machinery Co.
Sizing Machines—
Charles B. Johnson
Sizing Starches, Gums—
Arnold, Hoffman & Co., Inc.
Arabol Mfg. Co.
Hart Products Corp.
L. Sonneborn Sons, Inc.
Stein, Hall & Co.
Sizing Compounds—
Arnold, Hoffman & Co., Inc.
Bosson & Lane
Corn Products Refining Co.
Drake Corp.
General Dyestuff Corp.
Hart Products Corp.
A. Klipstein & Co.
National Oil Products Co.
United Chemical Products Co
John P. Marston & Co.
Seydel Chemical Co
Seydel-Woolley Co.
L. Sonneborn Sons, Inc.
Wolf, Jacques & Co.
Slashers—
Charles B. Johnson
Slashers Combs—
Easton & Burnham Machine Co
T. C. Entwistle Co.
Steel Heddle Mfg. Co.
Textile Finishing Machinery Co.
Softeners (Cotton)
Arabol Mfg. Co.
Arnold, Hoffman & Co., Inc.
Bosson & Lane.
General Dyestuff Corp.
E. F. Houghton & Co.
National Oil Products Co., Inc.
Seydel Chemical Co., The.
L. Sonneborn Sons, Inc.
United Chemical Products Corp.
U. S. Bobbin & Shuttle Co.
Wolf, Jacques & Co
Softeners—
Arnold, Hoffman & Co., Inc.
E. F. Houghton & Co.
National Oil Products Co., Inc.
Seydel-Woolley Co.
L. Sonneborn Sons Co.
Skewers—
Daid Brown Co.
Courtney, The Dana S. Co.
T. C. Entwistle Co.
Jordan Mfg. Co.
Walter L. Parker Co.
U. S. Bobbin & Shuttle Co.
Slashers and Equipment—
Saco-Lowell Shops.
Soaps—
Arabol Mfg. Co.
Arnold, Hoffman & Co., Inc.
A. Klipstein & Co.
National Oil Products Co.
L. Sonneborn Sons, Inc.
United Chemical Products Co.
Soda Ash—
J. B. Ford Co.
Mathieson Alkali Works, Inc.
Softeners (Oil)—
Bosson & Lane.
E. F. Houghton & Co.
Hart Products Corp.
National Oil Products Co.
L. Sonneborn Sons, Inc.
Spindles—
Collins Bros. Machine Co.
Draper Corporation.
Fales & Jenks Machine Co.
Saco-Lowell Shops.
Whitin Machine Works
Southern Spindle & Flyer Co.
Woonsocket Machine & Press Co., Inc
Spindle Repairers—
Collins Bros. Co.

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Fales & Jenks Machine Co.
Southern Spindle & Flyer Co.

Spinning Frame Saddles—
Dixon Lubricating Saddle Co.

Spinning Frame Top Rolls (Wood)—
Washburn.

Spinning Rings—
Collins Bros. Machine Co.
Draper Corporation.
Fales & Jenks Machine Co.
Saco-Lowell Shops.
Whitin Machine Works.
Whitinsville Spinning Ring Co.

Spools—
—David Brown Co.
Courtney, The Dana S. Co.
Jordan Mfg. Co.
Lestershire Spool & Mfg. Co.
Frank Mossberg Corp.
Steel Heddle Mfg. Co.
U. S. Bobbin & Shuttle Co.
Walter L. Parker Co.

Sprockets—
Cocker Machinery & Foundry Co.

Sprockets, Silent Chain—
Link-Belt Co.

Spoolers—
Draper Corporation.
Easton & Burnham Machine Co.
Saco-Lowell Shops.
Whitin Machine Works.

Spinning Tapes—
American Textile Banding Co.
Barber Mfg. Co.
Georgia Webbing & Tape Co.

Squeeze Rolls—
H. W. Butterworth & Sons Co.
Rodney Hunt Machine Co.
Textile Finishing Machinery Co.

Starch—
Arnold, Hoffman & Co., Inc.
Corn Products Refining Co.
Keever Starch Co.
Penick & Ford, Ltd.
Stein, Hall & Co.

Stencil Machines—
A. J. Bradley Mfg. Co.

Stencil Papers—
A. J. Bradley Mfg. Co.

Stripper Cards—
L. S. Watson Mfg. Co.
Wickwire Spencer Steel Co.

Switch Boxes—
Chicago Fuse Mfg. Co.

Tanks—
H. W. Butterworth & Sons Co.
Rodney Hunt Machine Co.
Textile Finishing Machinery Co.

Tape—
Georgia Webbing & Tape Co.

Temperature Regulators—
American Schaeffer & Budenberg Corp.

Textile Castings—
H. W. Butterworth & Sons Co.
Cocker Machinery & Foundry Co.
Textile Finishing Machinery Co.

Textile Machinery Specialties—
H. W. Butterworth & Sons Co.
Cocker Machine & Foundry Co.
Rodney Hunt Machine Co.
Hyatt Roller Bearing Co.
Textile Finishing Machinery Co.

Textile Soda—
J. B. Ford Co.
Mathieson Alkali Co.

Temples—
Draper Corporation.
Hopedale Mfg. Co.

Textile Apparatus (Fabrics)—
B. F. Perkins & Son, Inc.
Henry L. Scott & Co.

Textile Dryers—
American Moistening Co.

Top Beams—
Frank Mossberg Corp.

Top Rolls For Spinning Frames—
Washburn.

Trademarking Machines—
Curtis & Marble Machine Co.

Transfer Stamps—
Kaumagraph Co.

Transmission Belts—
Charles Bond Company
Edward R. Ladew Co.
E. F. Houghton & Co.
Graton & Knight Mfg. Co.

Transmission Machinery—
Allis-Chalmers Mfg. Co.
Hyatt Roller Bearing Co.
William Sellers & Co., Inc.
Wood's T. B. & Sons Co.

Toilets—
Vogel, Jos. A. Co.

Transmission Silent Chain—
Link-Belt Co.
Morse Chain Co.

Trucks (Mill)—
Rogers Fibre Co.
W. T. Lane & Bros.

Trucks For Pin Boards—
Washburn.

Tubes (Paper)—
Sonoco Products Co.

Turbines (Steam)—
Allis-Chalmers Mfg. Co.

Twister Rings—
Whitinsville Spinning Ring Co.

Twisting Machinery—
Collins Bros. Machine Co.
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Fales & Jenks Machine Co.
Saco-Lowell Shops.
Whitin Machine Works.

Twisting Tapes—
Barber Mfg. Co.

Underwear Machines—
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Ventilating Apparatus—
American Moistening Co.
Parks-Cramer Co.

Ventilating Fans—
B. F. Perkins & Son., Inc.

Warpers—
Barber-Colman Co.
Crompton & Knowles Loom Works
Draper Corporation.
Easton & Burnham Machine Co.
Saco-Lowell Shops.
T. C. Entwistle Co.

Warp Dressing—
Arnold, Hoffman & Co., Inc.
Boson & Lane.
Draper Corporation.
Hart Products Corp.
E. F. Houghton & Co.
National Oil Products Co.
Seydel-Woolley Co.
L. Sonneborn Sons Co.

Warp Stop Motion—
Draper Corp.
Hopedale Mfg. Co.
R. I. Warp Stop Equipment Co.

Warp Tying Machinery—
Barber-Colman Co.

Warper Shell—
Cocker Machinery & Foundry Co.

Warpers (Silk or Rayon)—
Sipp Machine Co.

Washers (Fibre)—
Rogers Fibre Co

Waste Reclaiming Machinery—
Saco-Lowell Shops
Whitin Machine Works
Woonsocket Machine & Press Co. Inc

Waste Presses—
Economy Baler Co.
Rex Engineering Co.

Water Controlling Apparatus—
Rodney Hunt Machine Co.

Water Wheels—
Allis-Chalmers Mfg. Co.

Weighting Compounds—
Arabol Mfg. Co.
Bosson & Lane.
General Dyestuff Corp.
Hart Products Corp.
Marston, Jno. P.
National Oil Products Co.
Jacques Wolf & Co.
Seydel-Woolley Co.
L. Sonneborn Sons, Inc.

Well Drillers—
Sydnor Pump and Well Co.

Whizzers—
Tolhurst Machine Works.

Winders—
Easton & Burnham Machine Co.
Saco-Lowell Shops.
Universal Winding Co.

Winders (Skein)—
Sipp Machine Co.

Windows—
Carrier Engineering Corp.
Parks-Cramer Co.

Window Guards—
Wickwire Spencer Steel Co.

Wire Partitions—

Wrenches—
Frank Mossberg Corp.
Wickwire Spencer Steel Co.

Yardage Clocks—
T. C. Entwistle Co.

Yarns—
Paulson, Linkroum & Co.
Mauney-Steel Co.

Yarn Tension Device—
Eclipse Textile Devices, Inc.

Yarn Presses—
Economy Baler Co.

Yarn Testing Machines—
H. L. Scott & Co.